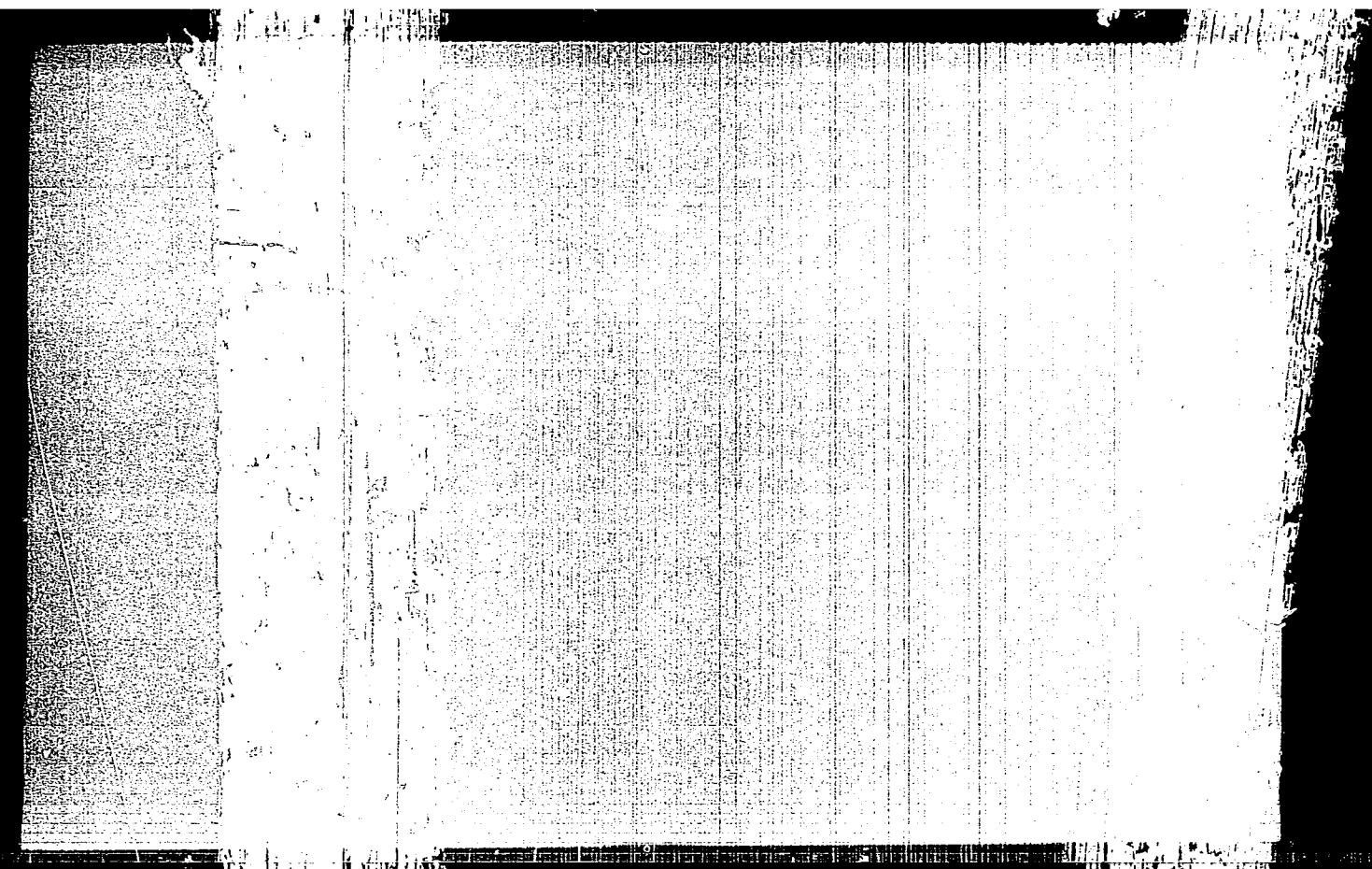


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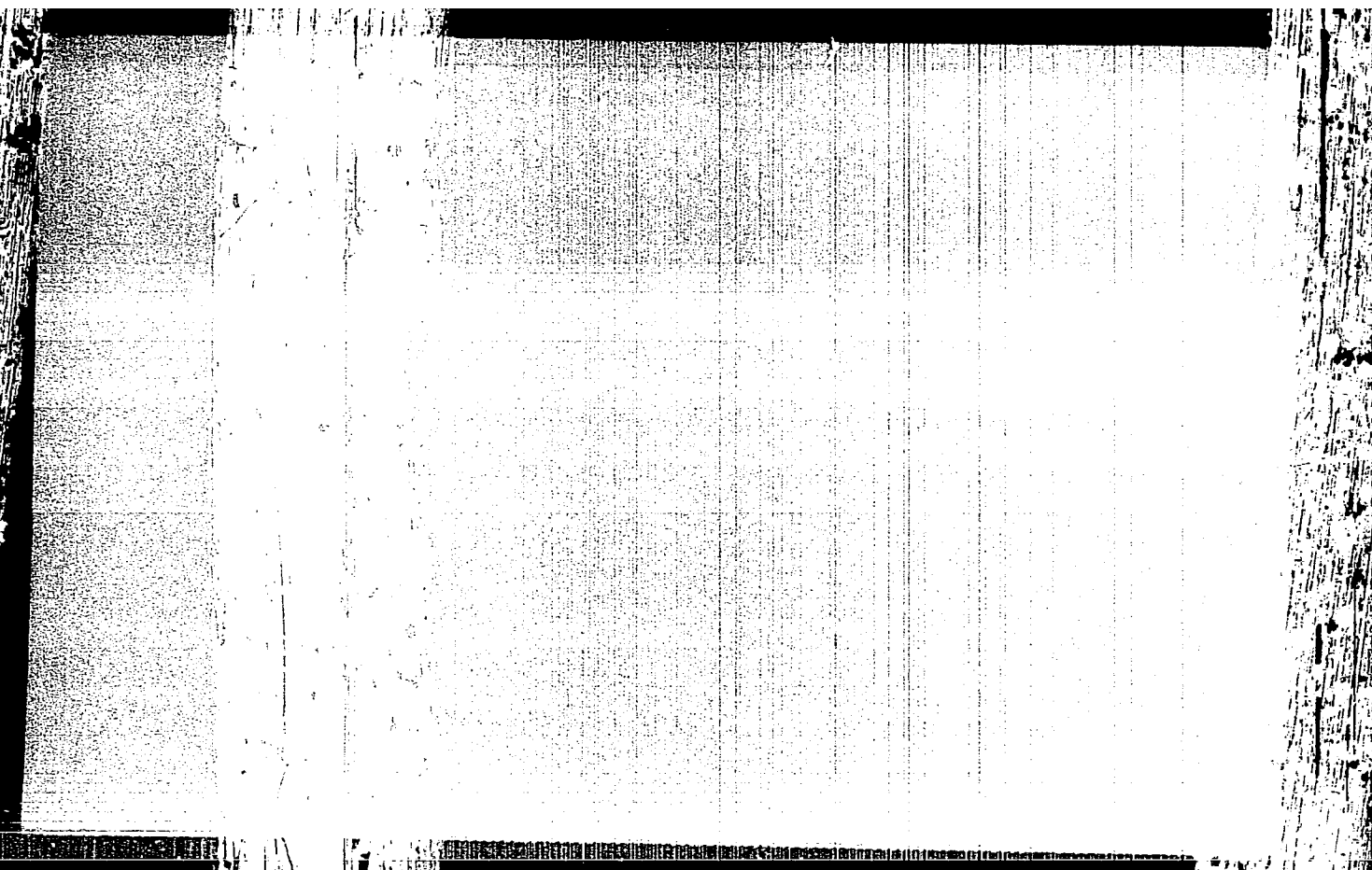


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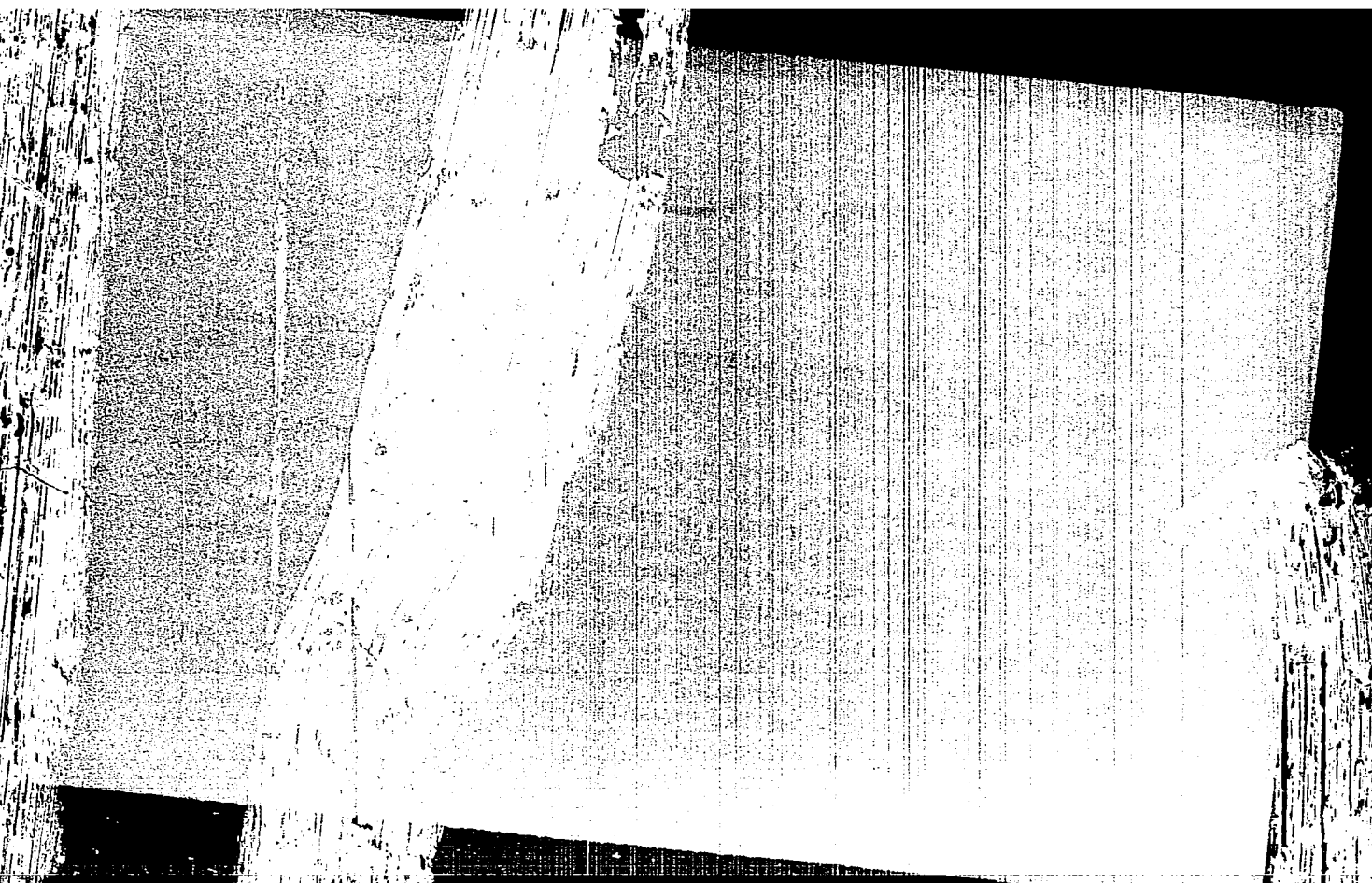


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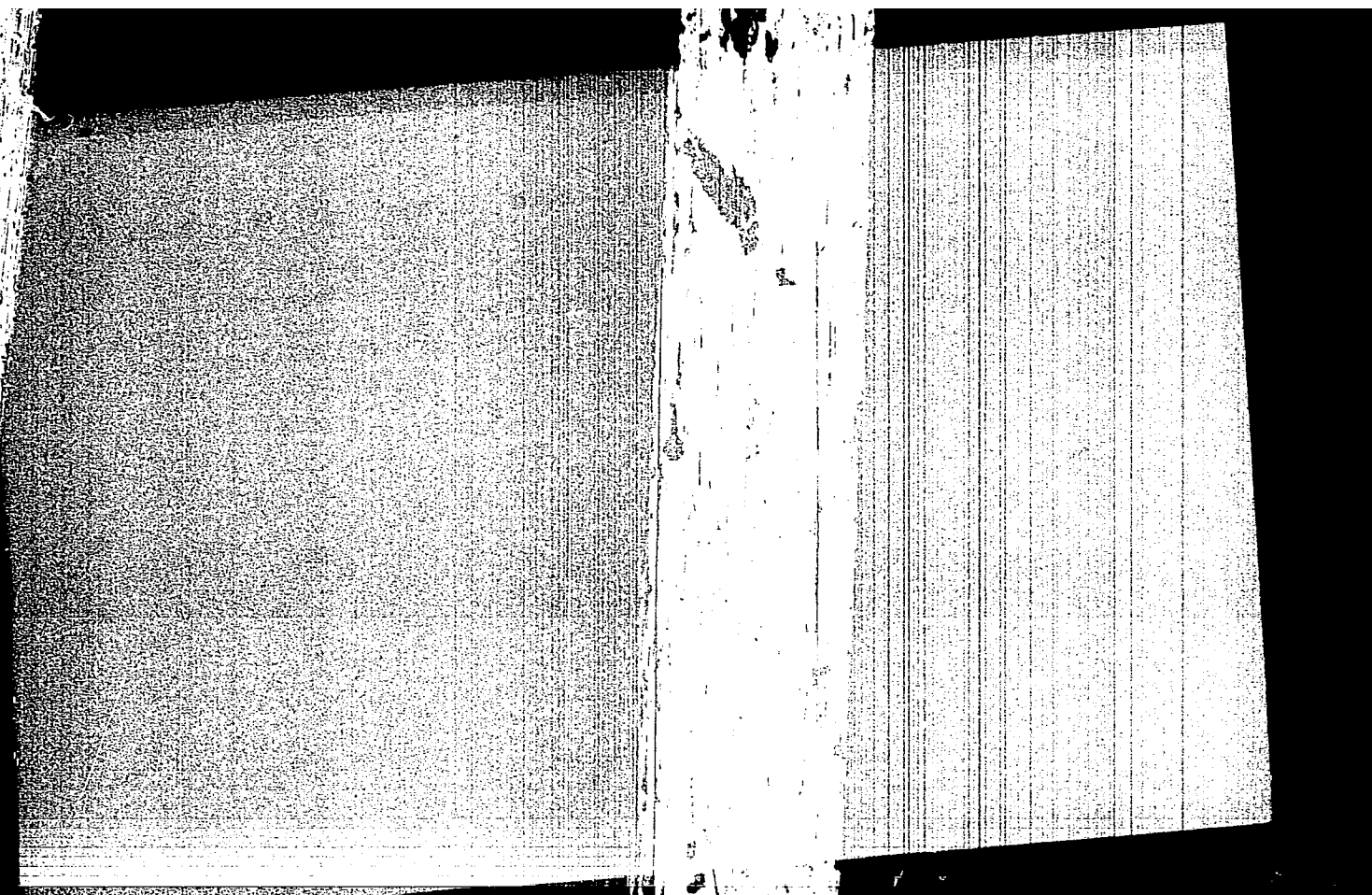


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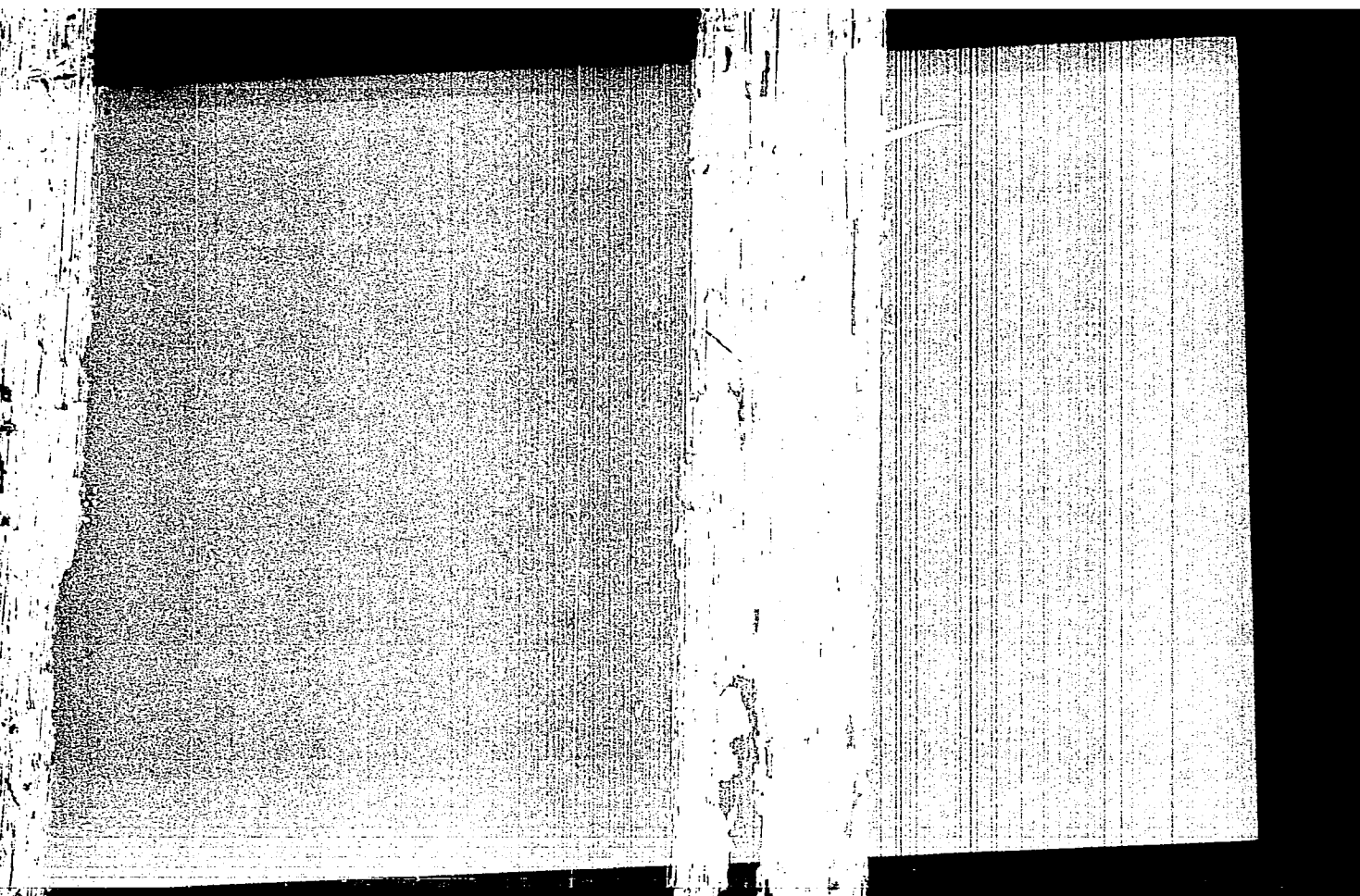


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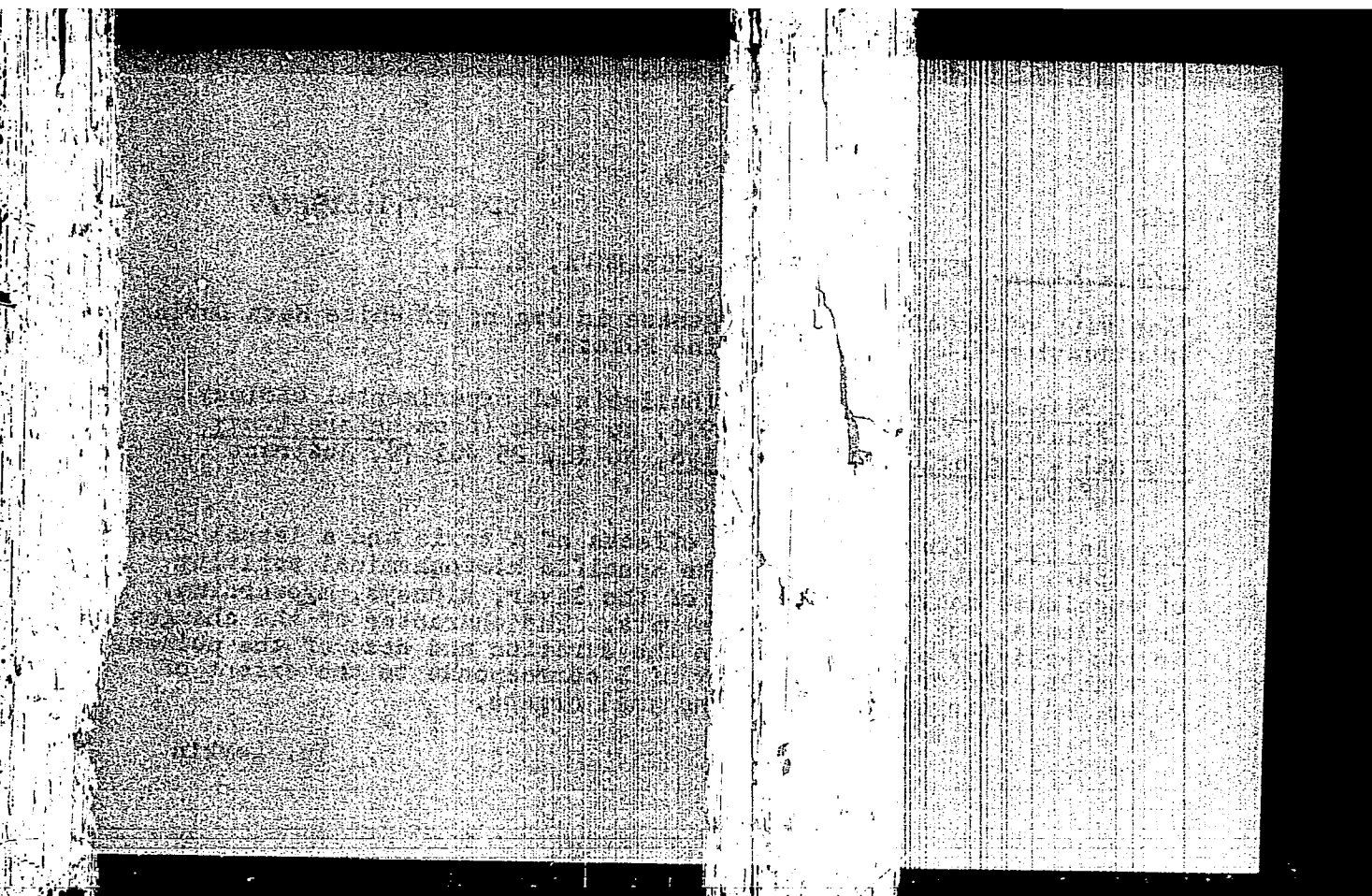


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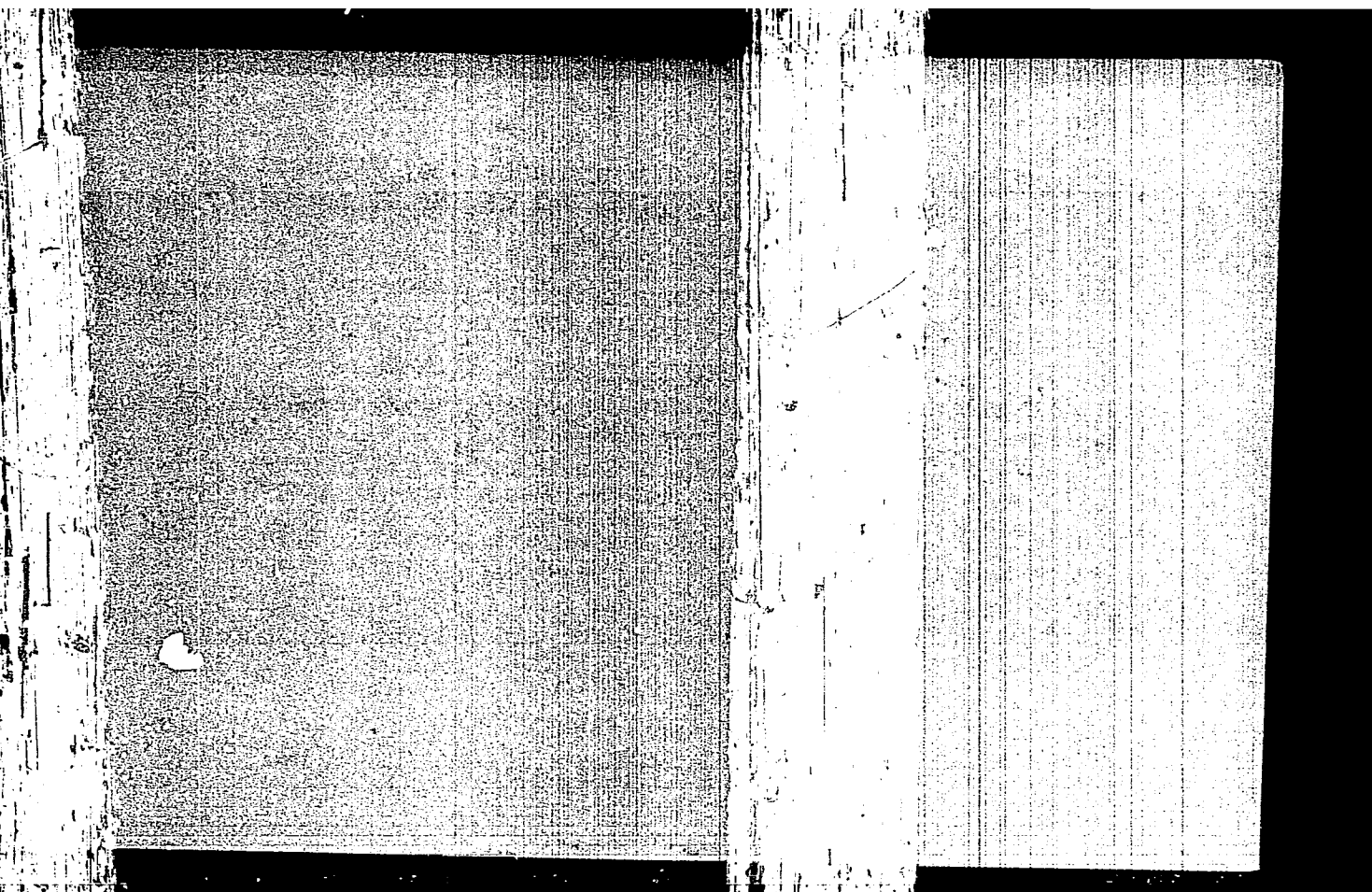


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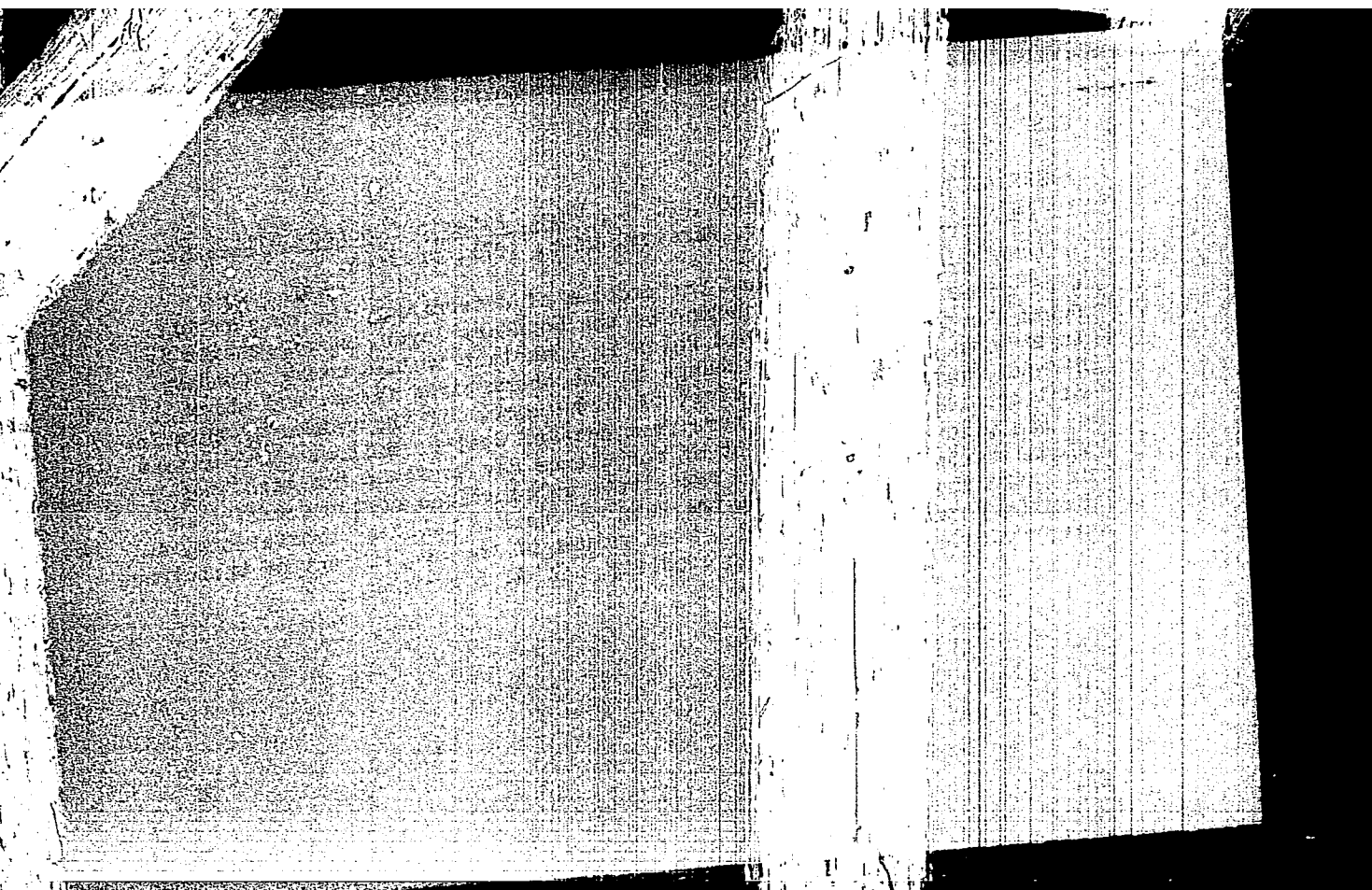


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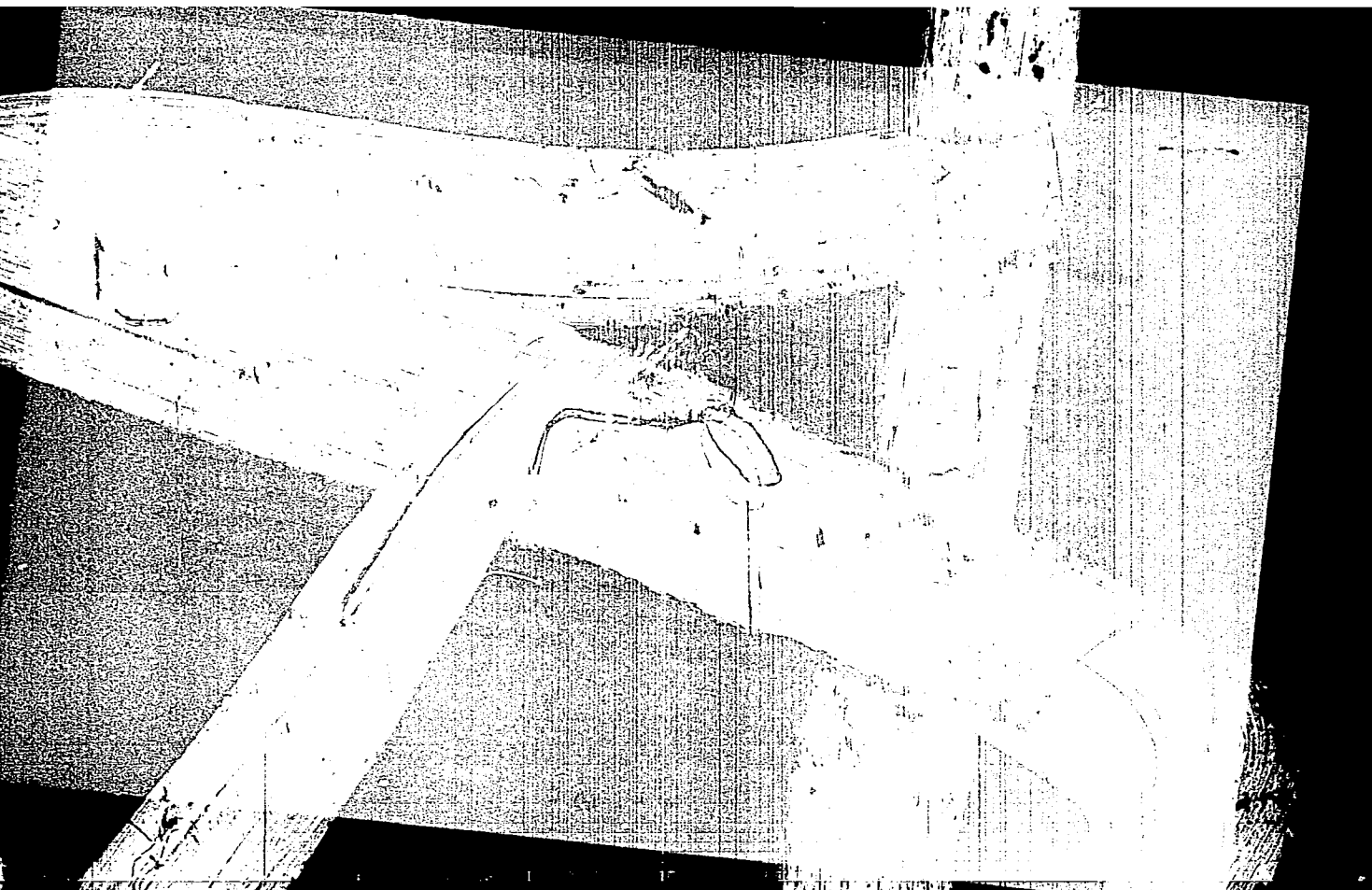


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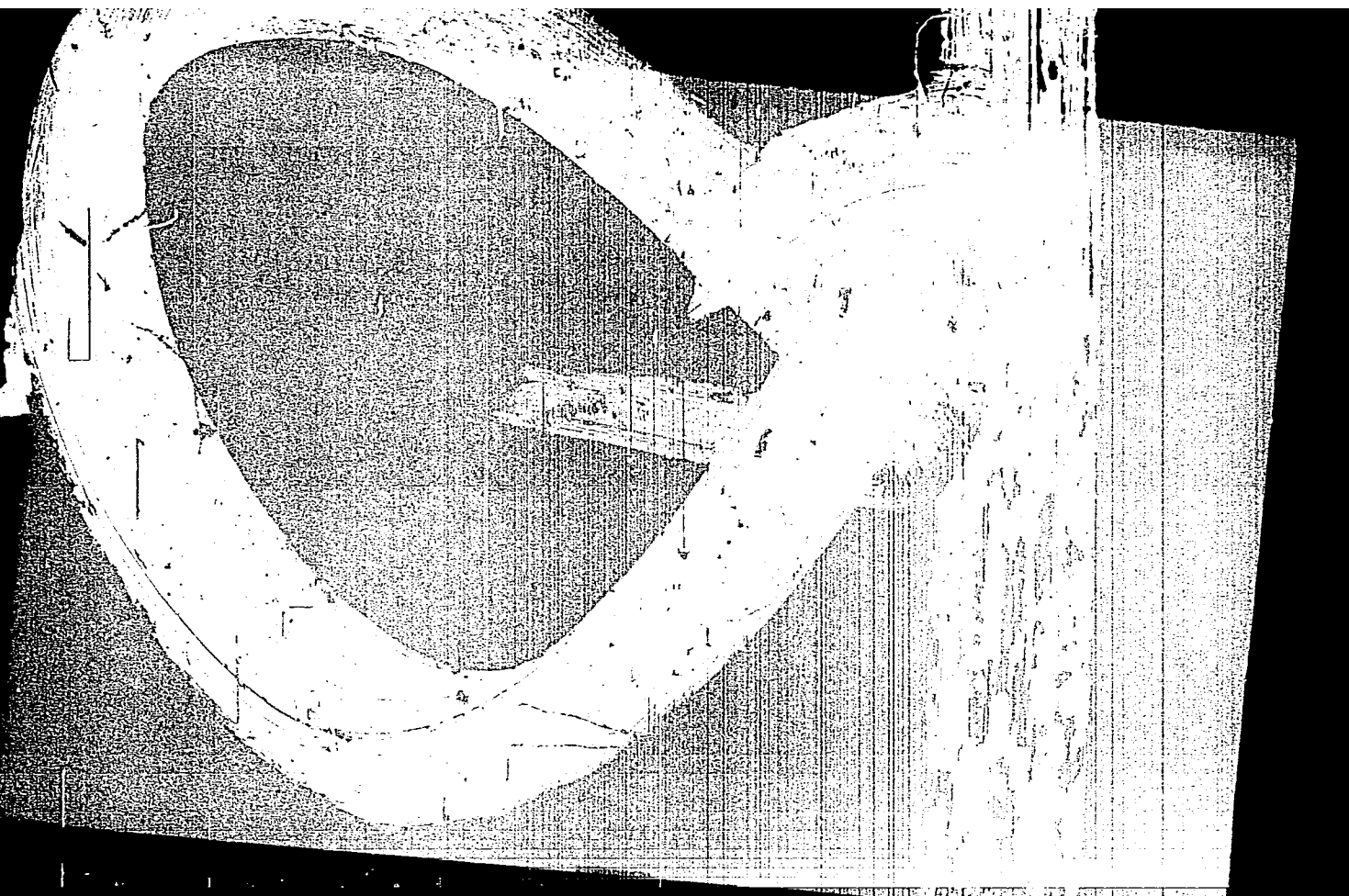


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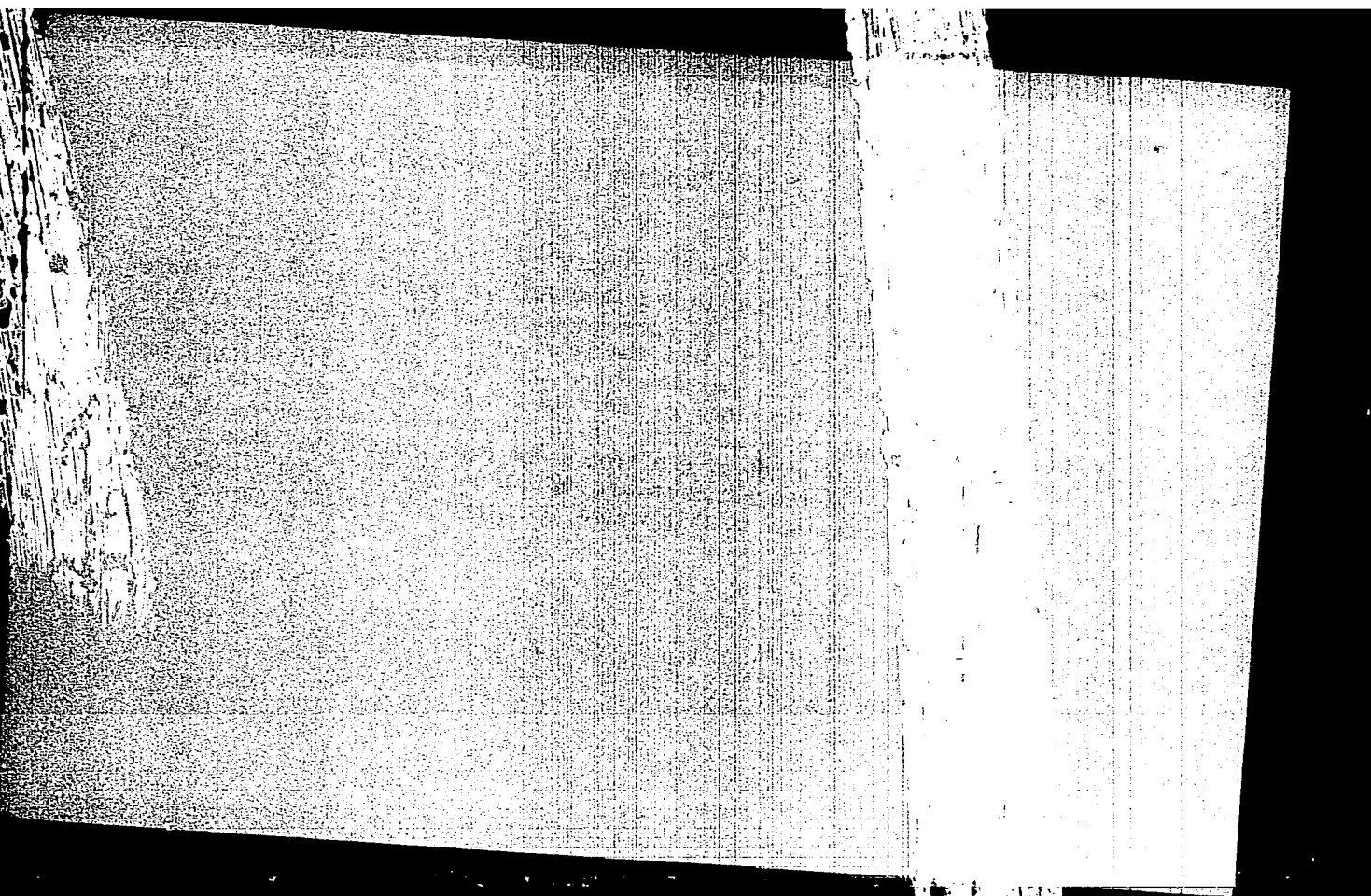


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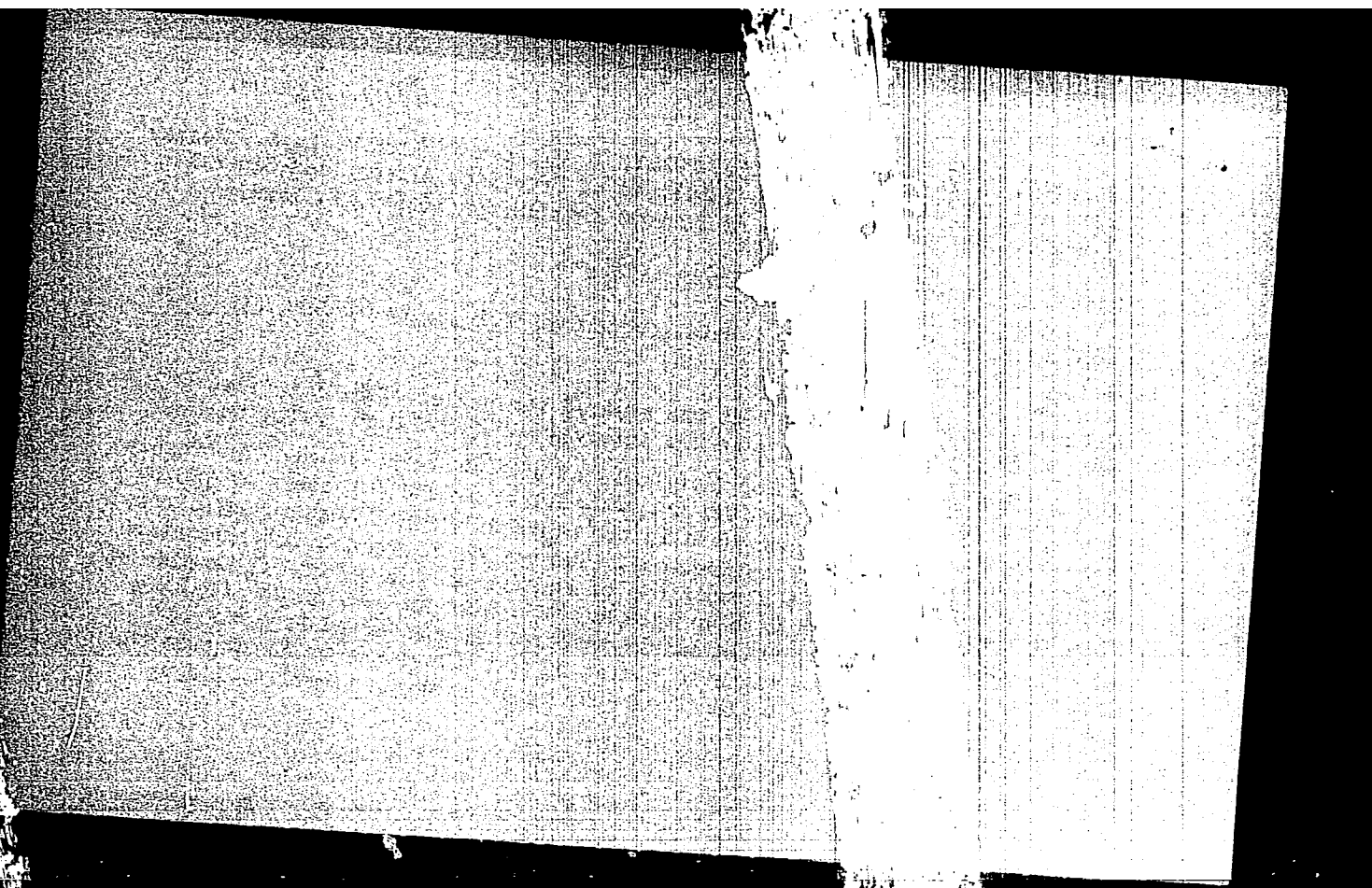


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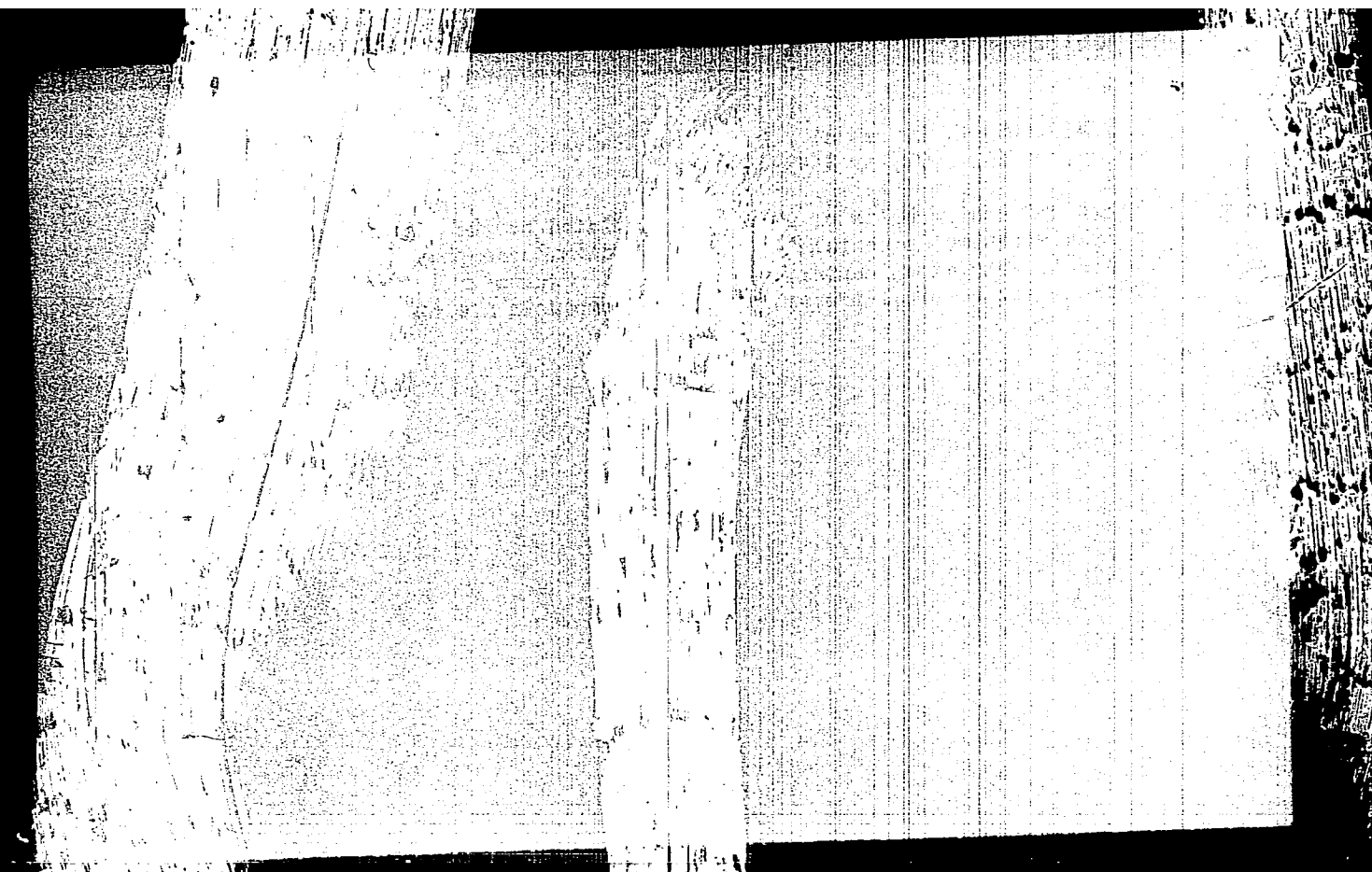


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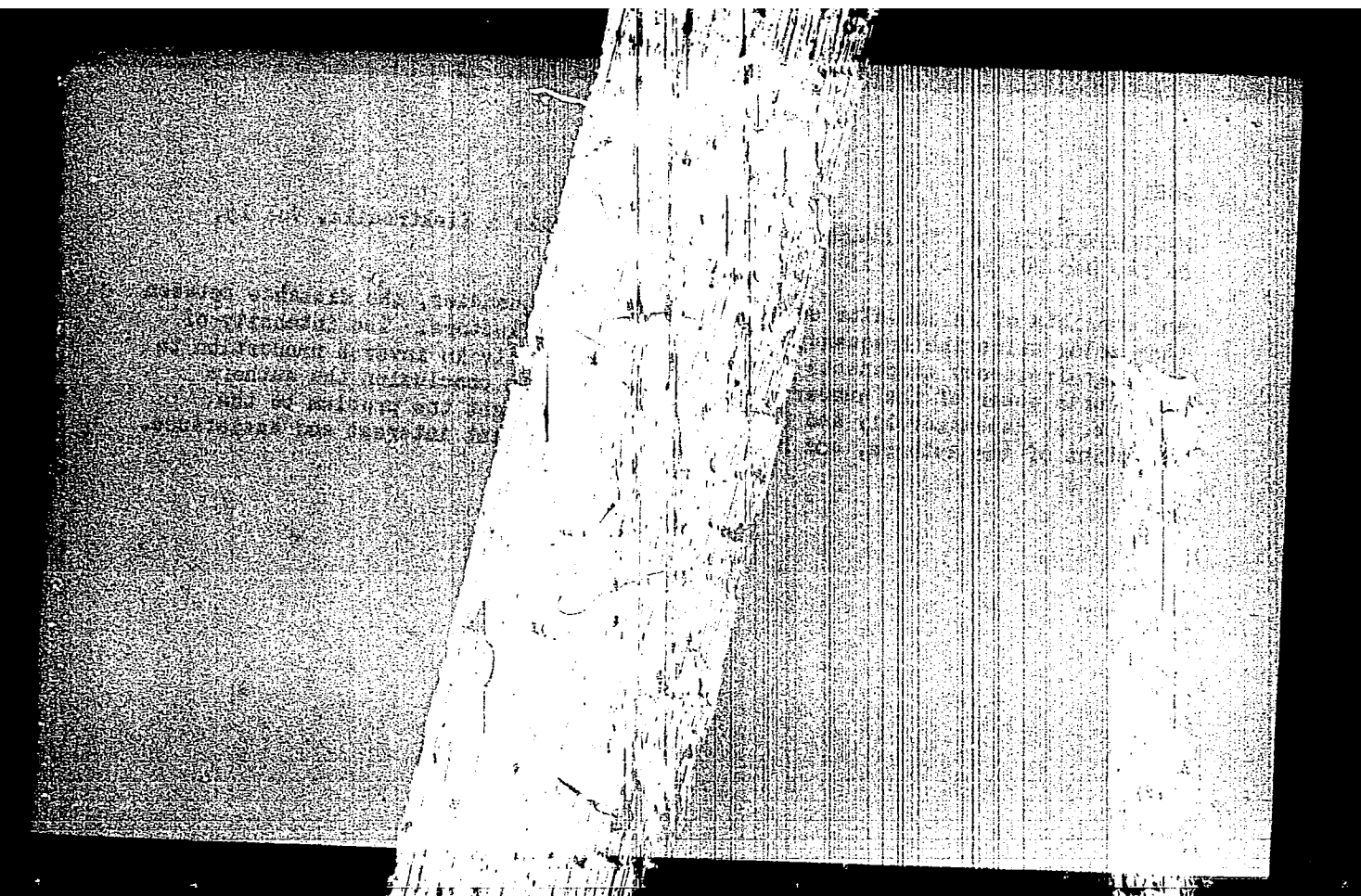


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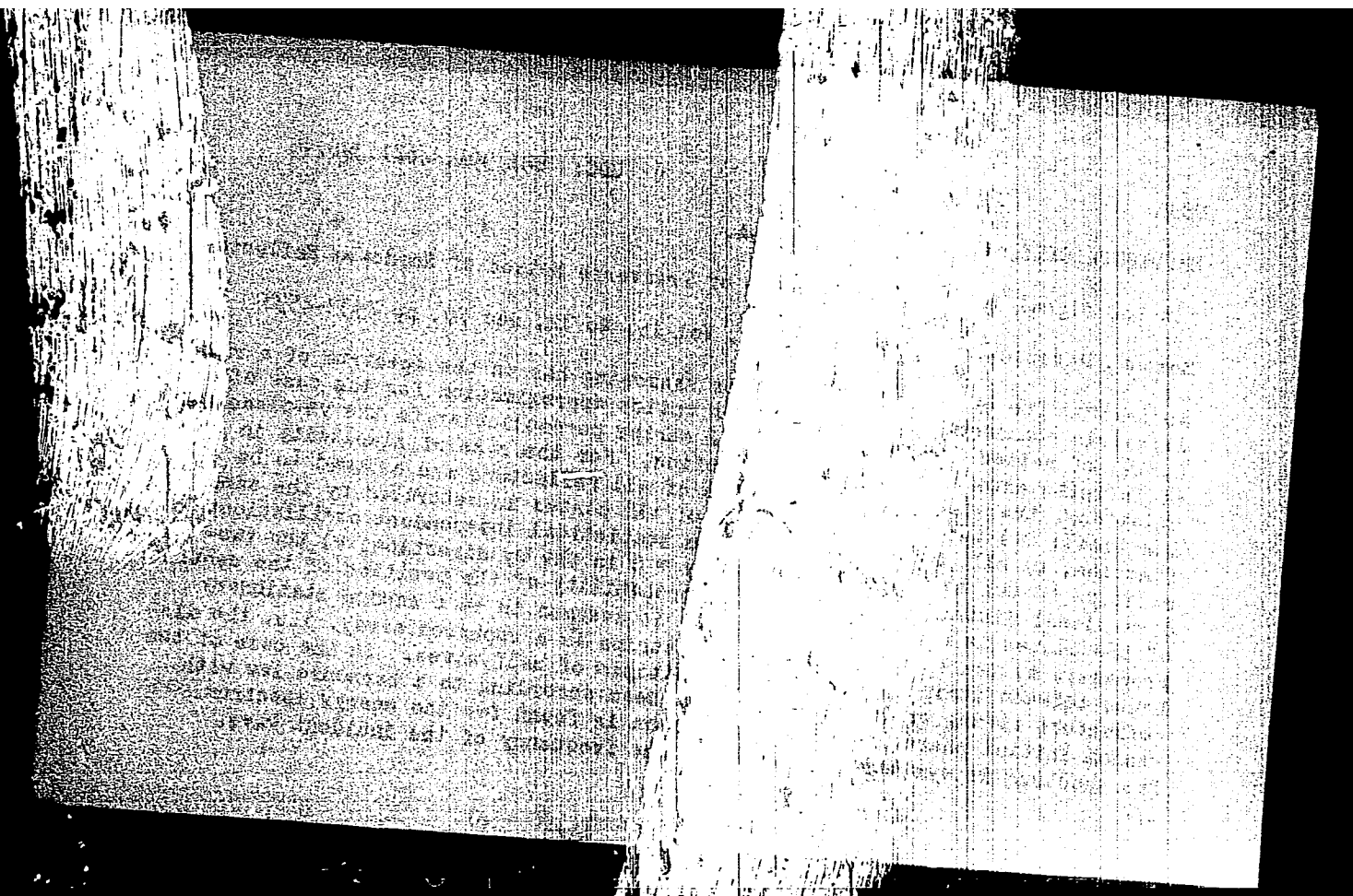


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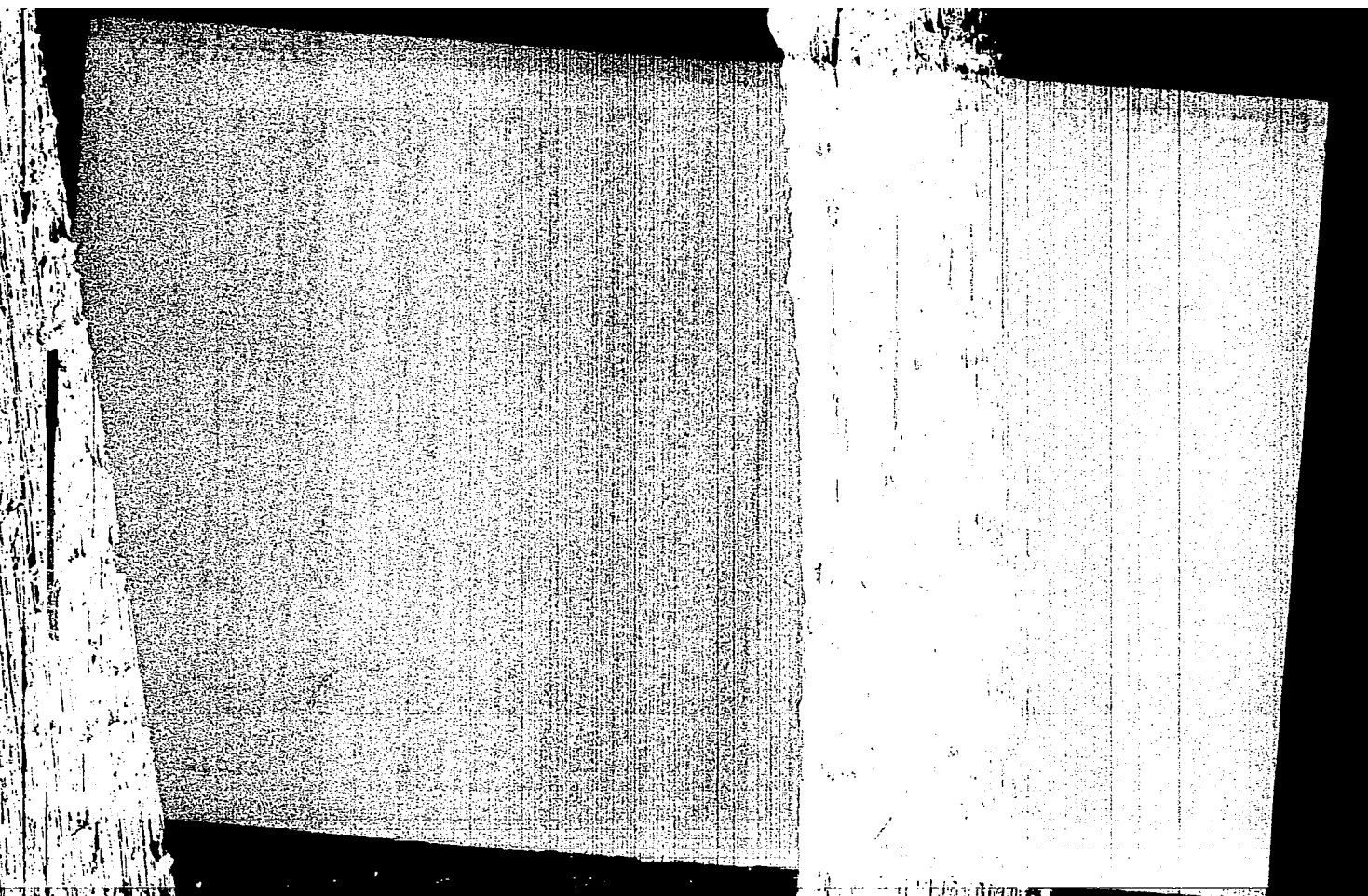


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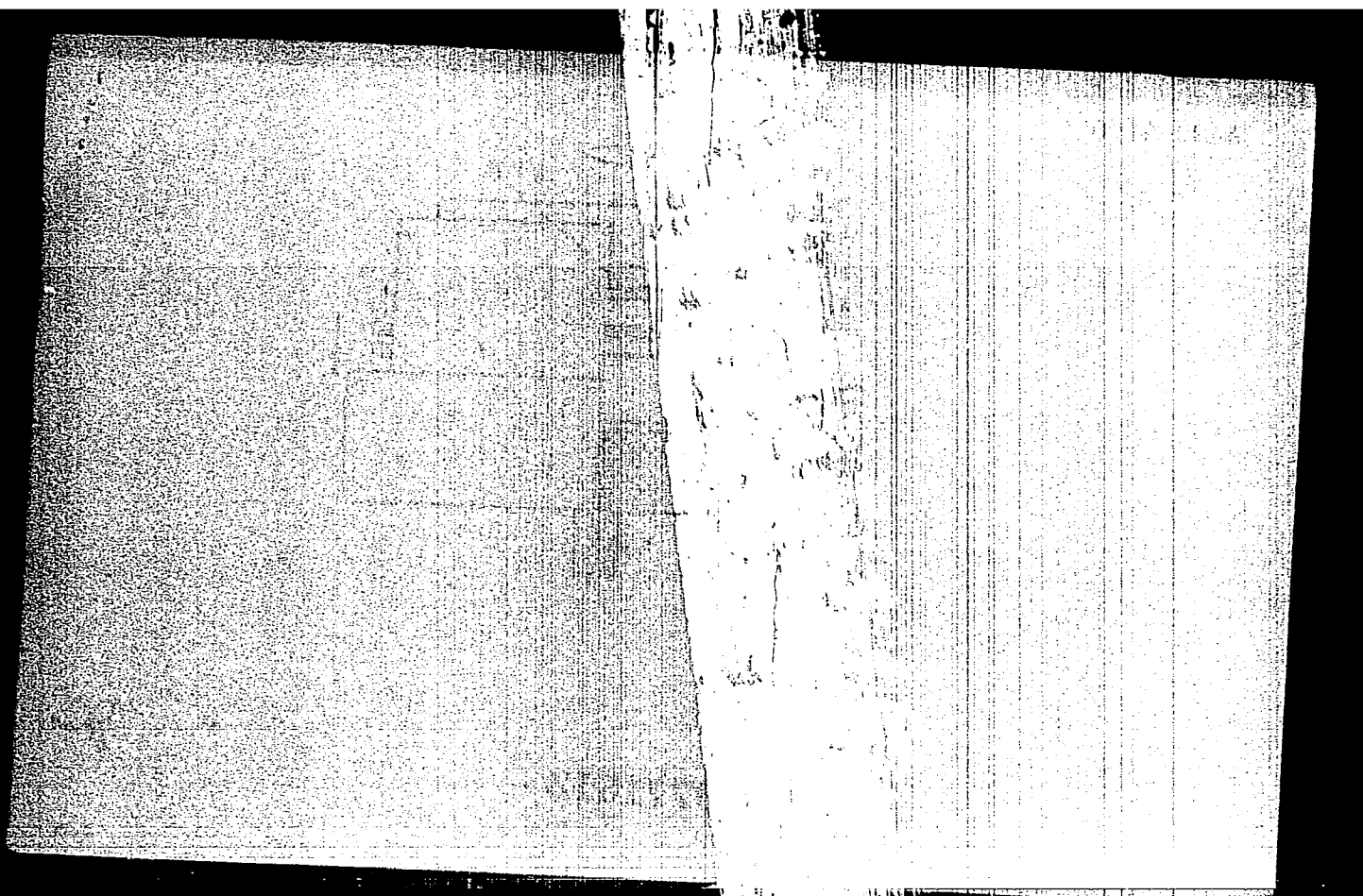


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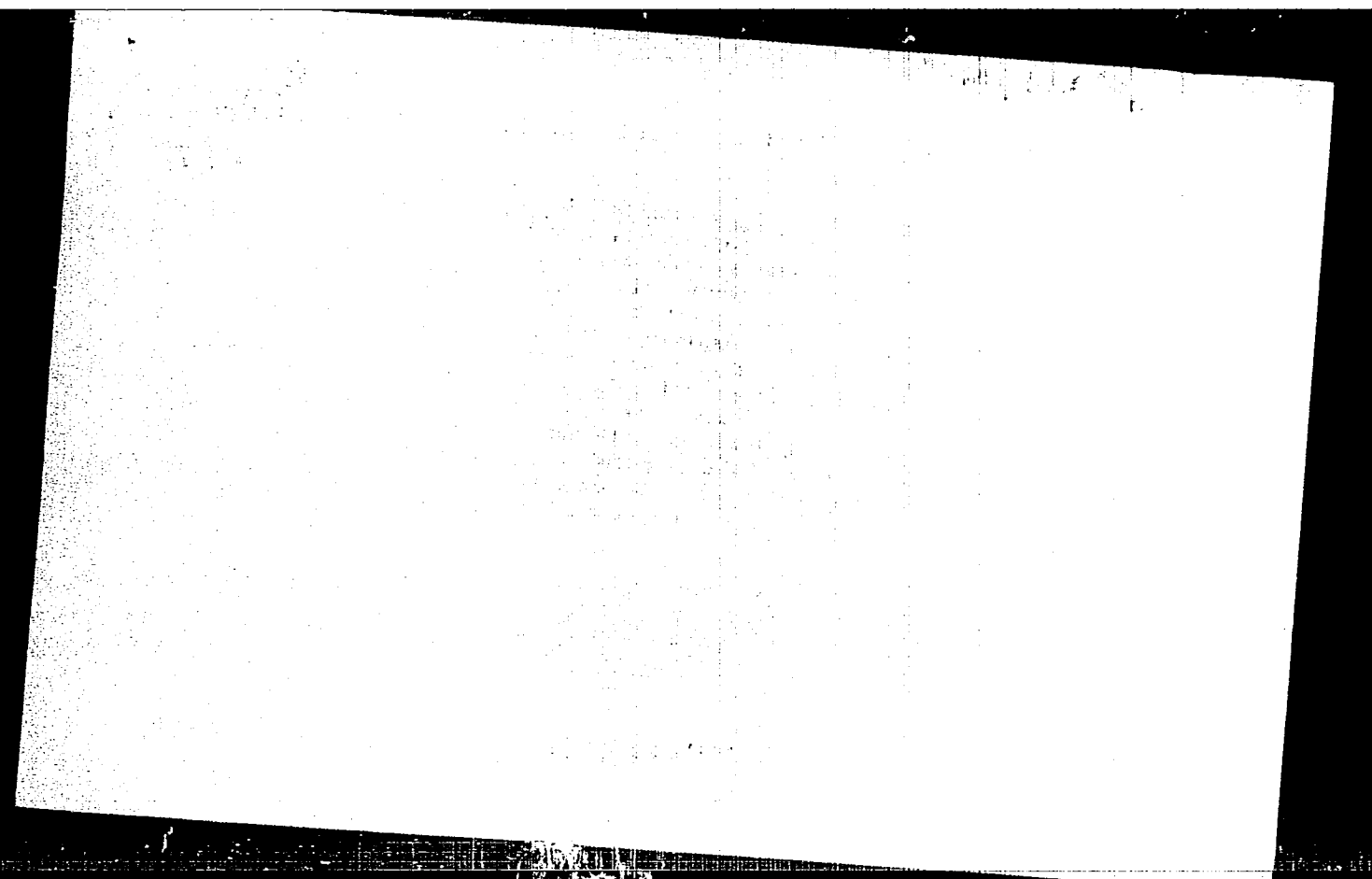
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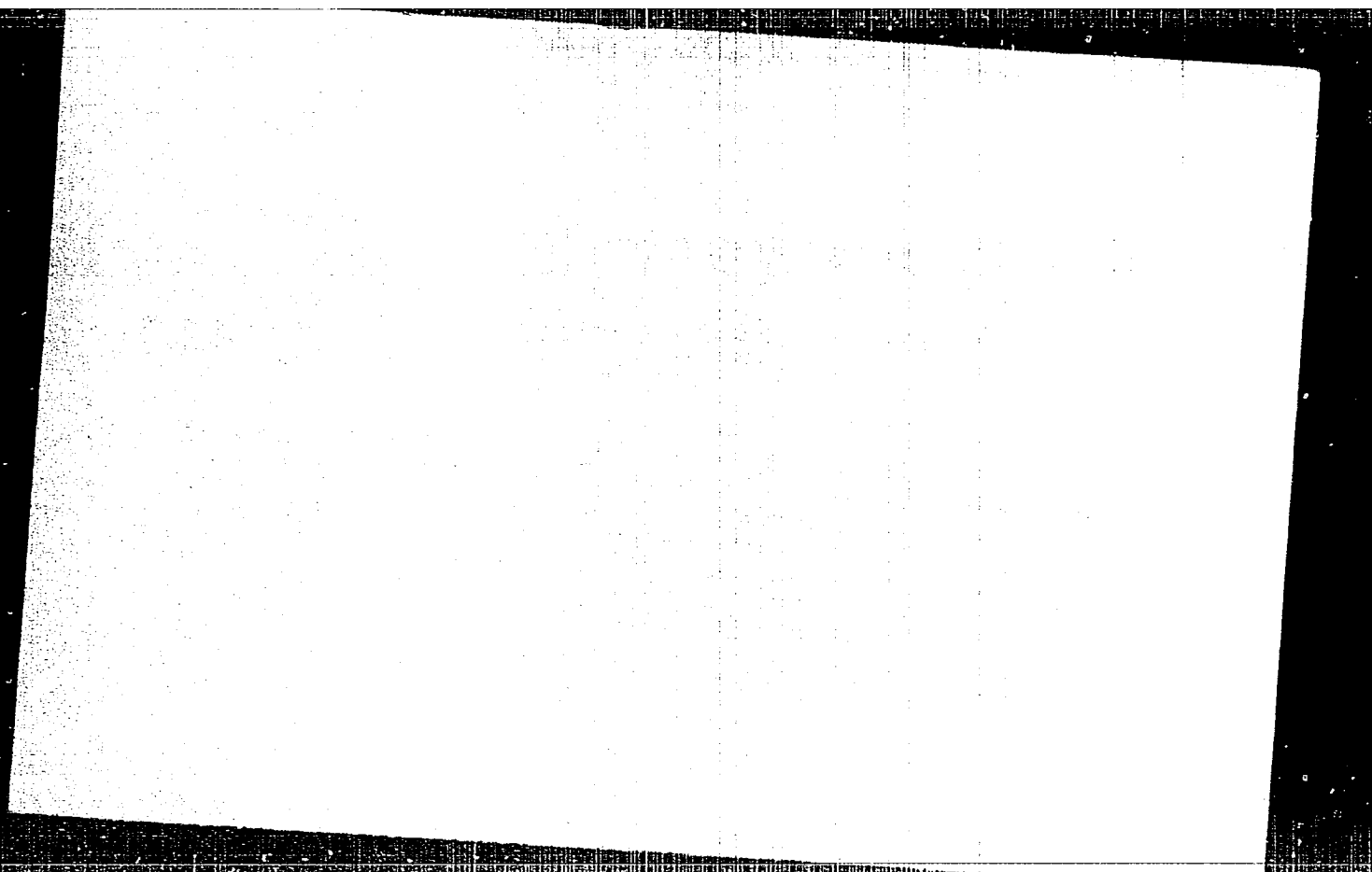


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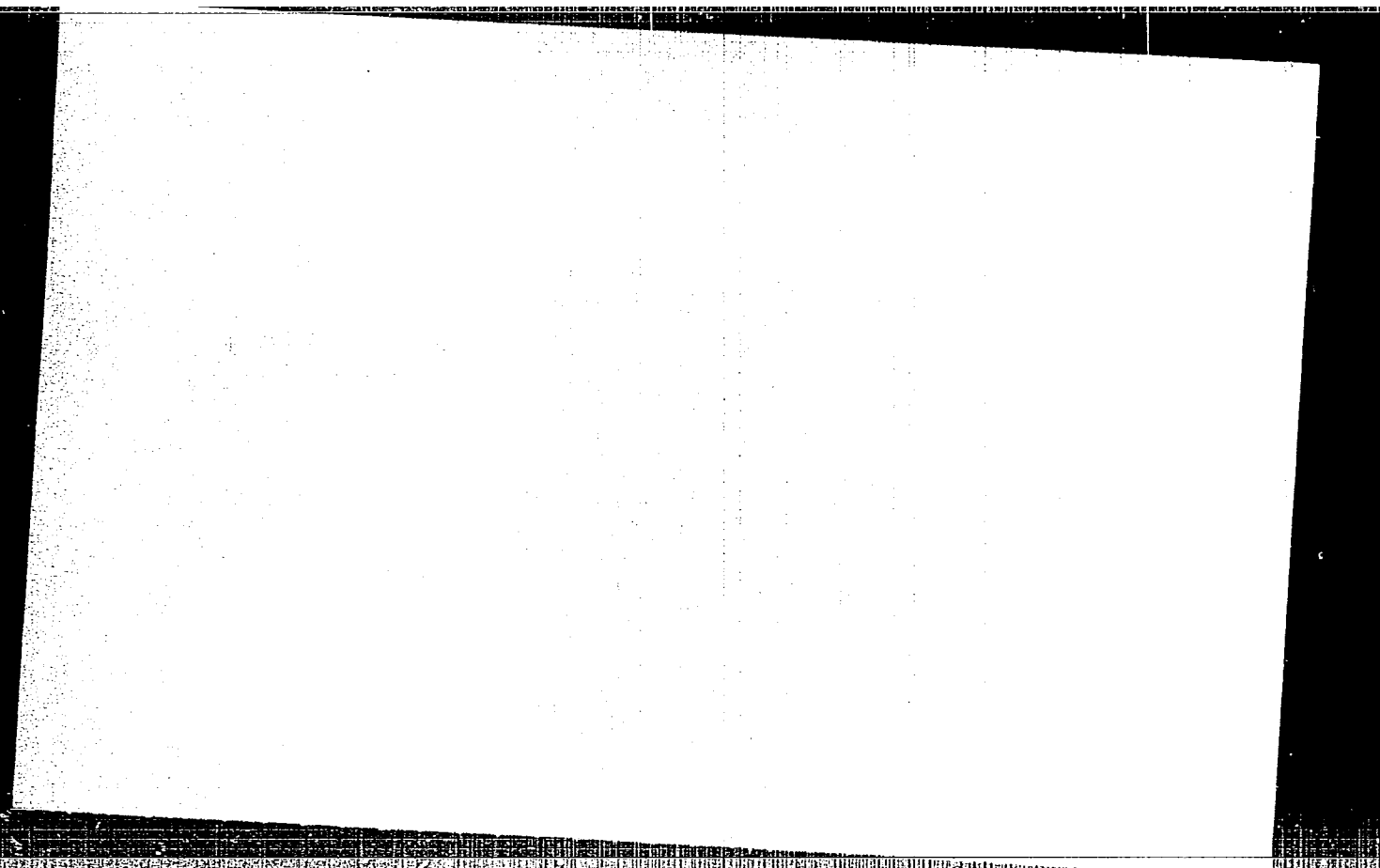
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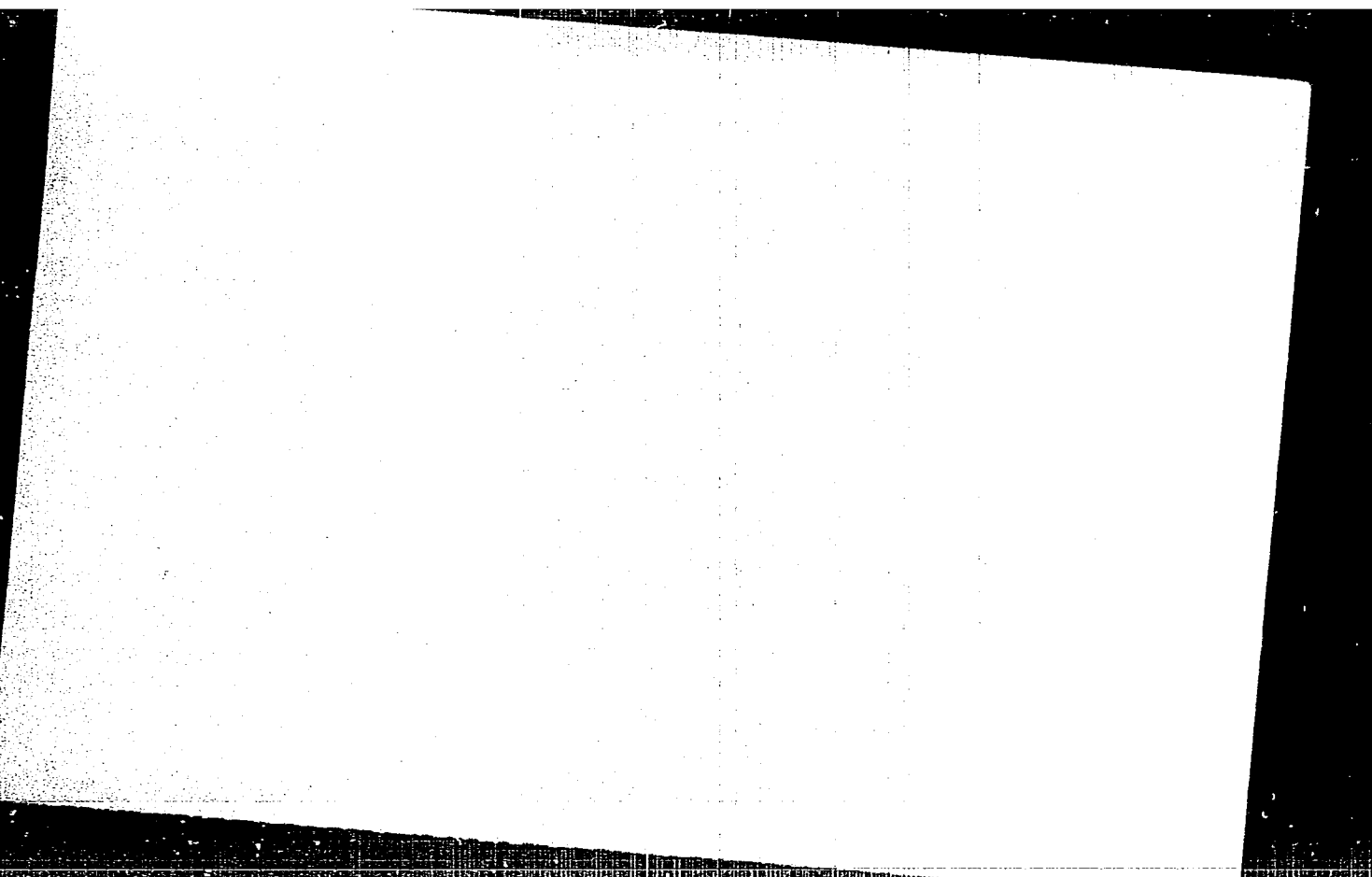


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1/2 026
TITLE--MECHANISM OF HYDROGEN PEROXIDE DECOMPOSITION BY COPPER AMMONIATES
-U-
AUTHOR--(03)--SHABARCHINA, L.I., BERONIKOV, V.M., PURMALIS, A.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 265-6
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL REACTION MECHANISM, HYDROGEN PEROXIDE, CHEMICAL
DECOMPOSITION, COPPER COMPOUND, AMMONIA, UV RADIATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2064
STEP NO--OR/0076/70/044/001/0265/0265
AP0125651 UNCLASSIFIED

PROCESSING DATE--300CT70

UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--AP0125651
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE EXPRESSION FOR THE RATE OF REACTION IN THE SYSTEM $H \text{ SUB2 } O \text{ SUB2 } CU \text{ PRIME2POSITIVE, NH SUB3}$ HAS THE FORM $W \text{ EQUALS } NICU \text{ PRIME2POSITIVE}$ (H SUB2 O SUB2), (H PRIME POSITIVE), WHERE $N \text{ EQUALS } NICU \text{ PRIME2POSITIVE}$ (H SUB2 O SUB2). ANAL. OF THE DEPENDENCE OF $N \text{ ON } (NH \text{ SUB3})$ SHOWED THAT $CU(NH \text{ SUB3}) \text{ SUB2 PRIME2POSITIVE AND } CU(NH \text{ SUB3}) \text{ SUB3 PRIME2POSITIVE ARE THE CATALYTICALLY ACTIVE FORMS. THE MECHANISM OF THE PROCESS IS NOT KNOWN. } W \text{ DECREASES WHEN QUINONS, CRG. ACIDS, ALCS., NITRILES, AMIDES, AND NO SUB2 CONTG. COMPS. ARE ADDED. THE PROCESS IS NOT ACCELERATED BY THE UV IRRADN. A RADICAL CHAIN MECHANISM WITH HIGH RATE OF INITIATION AND SHORT KINETIC CHAIN LENGTH IS PROPOSED.}$

FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

UDC 621.382.3

USSR

AKSENOV, A.I., VOROTNIKOVA, D.N., ~~ELBEN, V.V.~~

"Operational Parameters And Characteristics Of Transistors Of Average Power
1T403A--1T403I (Review)"

Elektron. tekhnika. Nauchno-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, Issue 2(52), pp 167-168 (from 3Zh--Elektronika i yeye primeneniye, No 3, March 1971, Abstract No 58195)

Translation: The families of input and output voltampere characteristics are presented for the transistors 1T403A--1T403I in circuits with a common base and common emitter, and also the relation $h_{21a} = f(I_k, V_{k})$ in the range of collector currents and voltages. All measurements were conducted at temperatures of 20 and 70° C. It is reported that the thermal constants junction--case and junction--medium amount to 60-70 msec and 10 min, respectively. N.K.

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AA 0040644

UR 0482

1-70

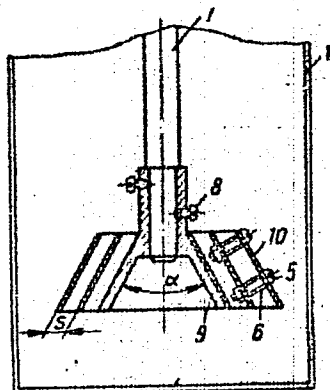
P
Soviet Inventions Illustrated, Section I Chemical, Derwent,

242139 SCREW MIXER FOR RESINS for effective mixing of non-Newtonian liquids e.g. epoxys, polyesters under laminar flow conditions the mixing unit is of the Archimedean screw type, with a rectangular or conical cross-section. The blade, of thin sheet steel, bolted to a bush connected to a central shaft, can be made of varying pitch and conicity, and has an optimum speed of 70-150 r.p.m.

AUTHORS: Timofeyev, V. A.; Samsonov, V. G.; and Purtov, I. V.

19750220

AA0040644



3.5.67. as 1155793/23-26, TIMOFEEV, V.A. et al.
(11.9.69) Bul. 15/25.4.69. Class 12e, Int. Cl.
B 01f.]

19750221

1/2 030 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--OPTICAL PROPERTIES OF NITROGEN DOPED ALPHA SILICON CARBIDE CRYSTALS
-U-
AUTHOR--(02)-PURTELADZE, I.M., KHAVTASI, L.G.
COUNTRY OF INFO--USSR
SOURCE--SOOBSHCH. AKAD. NAUK GRUZ. SSR 1970, 57(1), 45-8
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--CRYSTAL OPTIC PROPERTY, SILICON CARBIDE, CRYSTAL IMPURITY,
NITROGEN, ABSORPTION SPECTRUM, ABSORPTION COEFFICIENT, LIGHT REFLECTION
COEFFICIENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRADE--1996/0547 STEP NO--UR/0251/70/057/001/0045/0048
CIRC ACCESSION NO--AP0117777
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117777

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABSORPTION AND REFLECTION
COEFFS. OF N DOPED ALPHA SIC SINGLE CRYSTALS WERE INVESTIGATED IN THE
2-15MU SPECTRAL RANGE. THE SHAPE OF THE ABSORPTION SPECTRUM IS
ATTRIBUTED TO ABSORPTION FROM THE N LEVEL TO THE CONDUCTION BAND. THE
ENERGY OF THIS TRANSITION WAS DETD. FACILITY: TBILIS. GUS.
UNIV., TBILISI, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SYNTHESIS OF SILICON OXYNITRIDE -U-
AUTHOR-(04)-GUZMAN, I.YA., PURUSOVA, T.N., POLUBOYARINOV, D.N.,
KARPILOVSKAYA, M.N.
COUNTRY OF INFO--USSR
SOURCE--OGNEUPORY 1970, 35(3), 41-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SILICON COMPOUND, NITRIDE, DILATOMETRIC ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/0879 STEP NO--UR/0131/70/035/003/0041/0046
CIRC ACCESSION NO--AP0118048
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118048

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACCORDING TO THE REACTION $Si + SiO_2 \rightarrow Si_2O_3$ OR $3Si + SiO_2 \rightarrow 2Si_2O_3$ SYNTHETIC SILICON OXYNITRIDE WAS PREPD. THE THERMOGRAVIMETRIC AND X RAY ANAL. DATA SHOW THAT THE REACTIONS BEGIN AT 1000DEGREES AND FINISH AT 1450DEGREES. REACTION (2) HAS BETTER PROSPECTS FOR USE. TO PROVE THE ASSUMPTION THAT Si_2O_3 IS CREATED VIA THE INTERMEDIATE SiO , SAMPLES FROM A MIXT. $SiO + Si$ IN WT. RATIO 1.52:1 WERE PREPD. AND HEATED IN N AT 1450-700DEGREES. BY X RAYS ONLY THE PHASE Si_2O_3 WAS FOUND. A SLIGHTLY LOWERED WT. INCREASE (IN COMPARISON WITH THE THEORETICAL ONE) IN (2) IS CAUSED BY THE SiO ESCAPE. THE DILATOMETRIC MEASUREMENTS AT 20-700DEGREES OF SAMPLES WITH VARIOUS $Si:SiO_2$ RATIOS CONFIRM THE X RAY DATA. SAMPLES HEATED AT 1350DEGREES AND CONTG. A LARGE AMT. OF SiO_2 SHOW THE QUARTZ EFFECT CONNECTED WITH TRANSFORMATION OF BETA TO ALPHA QUARTZ. THE COURSE OF DILATOMETRIC CURVES OF SAMPLES HEATED AT 1450DEGREES DEPENDS ON THE INITIAL COMPN. OF THE MASS. AT $Si:SiO_2$ EQUALS 31.85:65.15 AT 170-280DEGREES THE EFFECT CORRESPONDING TO THE EXISTENCE OF CRISTOBALITE IS CLEARLY SHOWN. THE AV. COEFF. OF THERMAL EXPANSION IF α REE TIMES 10 PRIME NEGATIVE 6 DEGREES. AT A RATIO 58.37:41.63 THE SMOOTH COURSE OF DILATOMETRIC CURVES IS EVIDENT. THE COEFF. OF THERMAL EXPANSION EQUALS 2.13 TIMES 10 PRIME NEGATIVE 6-DEGREE. FACILITY: MOSK. KHIM.-TEKHNOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

P
GUZMAN, I. YA., ~~PHRUSOVA, T. N.~~, POLUBOYARINOV, D. N.,
KARPILOVSKAYA, M. N.

"Synthesis of Silicon Oxynitride"

Moscow, Ogneupory, No 3, Mar 70, pp 41-46

Abstract: A refractory material has been produced, consisting primarily of silicon oxynitride (Si_2ON_2); the optimal technological parameters for its synthesis are determined, and certain properties of the materials produced are described.

1/1

USSR

UDC: 535.31;535.8

PURYAYEV, D. T.

"The Problem of Classification of Optical Aspherical Surfaces"

Tr. Mosk. Vyssh. Tekhn. Uch-Shcha Im N. E. Baumana [Works of Moscow Higher Technical School Imeni N. E. Bauman], No. 135, 1970, pp 79-88, (Translated from Referativnyy Zhurnal Fizika, No. 8, 1970, Abstract #8D1215, unsigned).

Translation: All types of aspherical surfaces can be divided into two main groups: second-order surfaces and higher-order surfaces. Furthermore, it is suggested that aspherical surfaces be divided into three classes, depending on the requirements for manufacturing accuracy. This classification is based on the method of standard glasses.

1/1

USSR

UDC 542.91 + 547.963

PURYGIN, P. P., KRAYEVSKIY, A. A., GOTTIKH, B. P., Institute of Molecular Biology, Moscow, Academy of Sciences USSR

"Synthesis of Aminoacyl Derivatives of Nucleosides, Nucleotides, and Polynucleotides. VI. Synthesis of 3'(2')-O-Peptidyl-nucleoside-5'-triphosphates"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 70, pp 1369-1372

Abstract: It was shown that the synthesis method for O-aminoacyl derivatives of nucleotides and nucleoside triphosphates could be extended to the preparation of 3'(2')-O-peptidyl-nucleoside-5'-triphosphates. N,N'-carbonyldiimidazole (11.6 mg) was added to a solution of 13.2 mg of BOC-Ala-AlaOH in 0.1 ml of DMFA, stirred for 5-10 min at 20-22°, and the imidazolid formed was added to a solution of about 0.018 mmole of the nucleoside-5'-triphosphate in 0.5 ml water (adenosine-or guanosine-5'-triphosphate). The reaction mixture was stirred for 3.5 hrs at 20-22°, and paper chromatographed, the product was eluted at 4° and lyophilized. In a similar manner

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USSR

PURYGIN, P. P., et al, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 70, pp 1369-1372

BOC-Leu-Gly-TrpOH reacted with cytidine- and uridine-5'-triphosphate giving the respective 3'(2')-O-peptidylnucleosides-5'-triphosphates.

2/2

- 60 -

USSR

UDC: 535.853.4

PURYAYEV, D. T.

"Immersion Interferometer for Controlling the Quality of Second-Order Aspherical Surfaces"

Leningrad, Priborostroyeniye, No 5, 1972, pp 93-96

Abstract: Because of defects in existing systems for controlling the quality of second-order aspherical surfaces, the author developed an interferometer in which the auxiliary optical part could be simpler in construction and could have a comparatively small dimension. The device is immersed in a liquid and uses a special lens with a diameter about equal to that of the surface it is meant to control. A diagram of the device and details of its structure are given. Although it was specifically designed for all types of second-order aspherical surfaces, it is best used for controlling convex and concave hyperbolic surfaces as well as concave elliptical surfaces. Its outstanding advantage is that it can control aspherical surfaces of high aperture using only its simple lens; its disadvantage is that the lens must be specially made. Under test, the instrument gave good results. The author is connected with the N. E. Bauman Higher Technical School of Moscow.

1/1

USSR

UDC: 531.715.1

~~PURYAYEV, D. T.~~, Moscow, "Order of Lenin" and "Order of the Red Banner of Labor" Higher Technical Academy imeni N. E. Bauman

"An Interferometer for Quality Control of Convex Hyperbolic and Concave Elliptical Surfaces"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 10, Apr 72, Author's Certificate No 332319, Division G, filed 4 Nov 70, published 14 Mar 72, p 156

Translation: This Author's Certificate introduces an interferometer for checking the quality of convex hyperbolic and concave elliptical surfaces. The device contains a monochromatic light source such as a laser, a focusing device to produce a point source of light, a plane-parallel plate with a translucent surface and a screen for observing the interference pattern. The screen has an opening in the center and is located close to the point source of light. As a distinguishing feature of the patent, the design is simplified, and the range of surfaces which can be inspected is extended by placing the point source of light in front of the translucent surface of the plate at a distance equal to half the distance between the geo-

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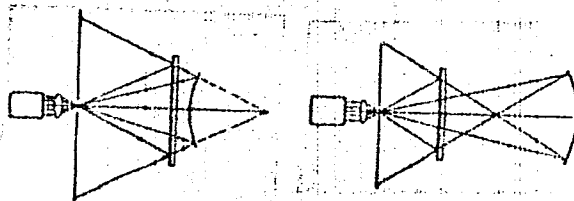
USSR

PURYAYEV, D. T., USSR Author's Certificate No 332319

metric foci of the surface to be checked. The distance from the other surface of the plate to the vertex of the surface to be checked is equal to

$$t = \left| \frac{r_0}{\epsilon^2 - 1} \right| - \frac{d}{n},$$

where r_0 and ϵ are the radius of curvature at the vertex of the plate to be checked and its eccentricity respectively, and d and n are the thickness and index of refraction of the plane-parallel plate.



2/2

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USSR

UDC 535.652

PURYAYEV, D. T., Candidate of Sciences

"Use of Correction Plates Made by Vacuum Aspherization for Testing of Aspherical Surfaces"

Optiko-mekhanicheskaya Promyshlennost', No 10, 1971, pp 45-48.

ABSTRACT: New possibilities are studied for the use of correction plates made by vacuum aspherization for testing of aspherical surfaces using compensators. Experimental results are presented. The idea of using aspherical refracting surfaces manufactured by the method of vacuum aspherization, was stated and theoretically supported by the author in 1963. However, at that time the idea was not adopted due to the lack of experimental checking. The author feels that this article helps to fill this gap. These plates can also be used as parts of optical systems designed for various purposes. They are particularly desirable for use in systems operating with monochromatic light, such as laser systems.

1/1

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USSR

UDC 51

PURYNICHEV, YU. I.

"Some Problems of Optimisation on Information Networks"

Tr. Leningr. politekhn. in-ta (Proceedings of the Leningrad Polytechnical Institute), No 332, Third Edition, 1973, pp 86 - 88, (from RZh Matematika, No 12, 1973, item No 12 V601)

Translation: An information network consisting of points connected by duplex communication channels is examined. Each point generates a Poisson stream of communications along each of its lines. The transmission time for a communication on a channel is distributed according to the exponential law. Along each channel sequences of unlimited length can occur. The problem is the optimal choice of the number of communication channels on each line of the network. The dynamic programming method is used in solving the problem.

Abstract by the author.

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- 38 -

USSR

UDC: 621.317.74

PURYSHEV, D. V.

"On Automatic Continuous Tracking of the Position of Minimum Field Strength in a Measurement Line"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 171-172 (from EZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A317)

Translation: The author considers an optimizing tracking system which ensures automatic continuous tracking of the position of minimum field strength in an unbalanced SHF measurement line when the SWR in the line $K \geq (1.3-1.5)$. In the tracking system, information on the field distribution in the measurement line is picked up by three probes with corresponding resonators electrically spaced at identical distances and fastened to a single movable carriage on the measurement line. A block diagram is given and the operation of the system is described. E. L.

1/1

- 97 -

USSR

UDC: 621.376.22(088.8)

KRECHETOV, A. D., PUS', V. V.

"An Amplitude Modulator"

USSR Author's Certificate No 270005, filed 21 Mar 67, published 4 Aug 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D303 P)

Translation: This Author's Certificate introduces an amplitude modulator based on a tube with secondary emission. The device contains a modulating signal source, a master harmonic oscillator, and a bias source. To improve the dynamic control characteristic of the modulation coefficient, a load in the form of a resonance tank is connected in the dynode circuit of the tube, while the modulating signal source and the master harmonic oscillator are connected to the control grid of the tube through a blocking capacitor. One illustration, V. P.

1/1

AA0052653

PUSH V. E.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

241830

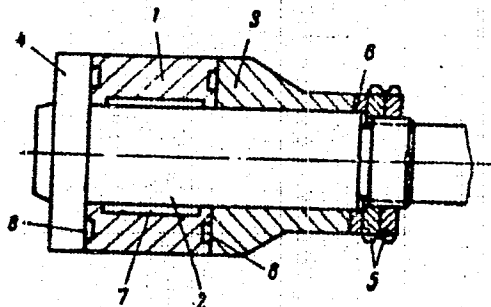
FLUID BEARING prevents rotation of the shaft when the fluid pressure drops. It consists of a sleeve 1 with pockets 7 and 8 which when filled with the fluid at pressure take axial and radial loads. The shaft 4 carries stops 3 and 4 secured by the nuts 5. The elastic element 6 is fitted on the shaft between the nuts and the stop 3. Due to pressure of the fluid, the element 6 is compressed thus producing a working clearance in the pockets 8. When the pressure drops the element 6 expands forcing stops 3 and 4 towards the sleeve and braking the rotation of the shaft.

1.3.68. as 1221789/25-27, PUSH, V.E. et al.
Moscow Instrumentation Inst. (2.9.69) Bul.
14/18.4.69 Class 47b, Int. Cl. F 16c.

19821390

AA0052653

Push, V. E.; Shimanevich, M. A.; Sokolov, Yu. N.;
Vulfson, I. A.; Levshunov, V. T.
Moskovskiy Stankoinstrumental'nyy Institut



2/2

19821391

1/1

USSR

UDC 548.736.6

PUSHCHAROVSKIY, D. Yu, BAATARYN, T., POBEDIMSKAYA, Ye. A., and BELOV, N. V.,
~~Moscow State University imeni M. V. Lomonosov~~

"The Crystal Structure of the Zn-Analog Milarite"

Moscow, Kristallografiya, Vol 16, No 4, Jul-Aug 71, pp 721-724

Abstract: The authors determine the structure of synthetic Zn-milarite $K(Mn,Fe)_2(Zn,Mn)_3Si_{12}O_{30}$, which serves as another example of the close crystallochemical similarity between Zn and Be. They examine the possibility of the equilibrium $Mn^{2+} + Fe^{3+} \rightleftharpoons Mn^{3+} + Fe^{2+}$ and on this basis solve the question as to the Fe distribution. Figure 1 shows the axonometric projection of Zn-milarite crystals; Figure 2 is a line diagram of powder patterns of Zn- and Be-milarites. The authors' findings are graphically illustrated in four tables: Table 1 gives the results of a chemical analysis of Zn-milarite made at the Institute of Geology and Geophysics of the Siberian Branch of the USSR Academy of Sciences; Table 2 compares the powder patterns of Zn- and Be-milarites; Table 3 lists the coordinates of the elementary atoms in the structure of Zn-milarite; and Table 4 gives the interatomic spacings in the structure of Zn-milarite. The article contains 2 figures, 4 tables, and a bibliography of 6 titles.

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USSR

UDC 51 + 631.4

CHUMACHENKO, I. N., Doctor of Agricultural Sciences, KAPTSYNEL', Ya. M.,
Candidate of Biological Sciences, LASER, V. S., and PUSHENKOV, V. C., All-Union
Institute of Fertilizers and Agro-Soil Science, VIUA

"Mathematical Methods for Studying the Optimum Phosphate Level in Soil"

Moscow, Vestnik Sel'skokhozyaystvennoy Nauki, No 5, 1970, pp 86-90

Abstract: Field experiments with different levels of phosphate fertilizers, conducted in irrigated grey soils of cotton fields in Tadzhik SSR, showed that the optimum content of mobile P_2O_5 is around 28-32 mg/kg of soil. With a soil content above 35 mg P_2O_5 /kg of soil, the yield of raw cotton drops. Harvest data for raw cotton during three years of experiments showed that the ratio between the content of mobile P_2O_5 in soil and the cotton yield is as follows:

$$y = 35.1 + 0.344 \cdot P - 0.5675 \cdot P^2, \text{ where}$$

y is the yield in centners per hectare, and P is mg P_2O_5 /per kg of soil.

UDC 582.26

USSR

GORYUNOVA, S. V., ~~PUSHEVA, M. A.~~ and GERASIMENKO, L. M., Institute of Microbiology, Academy of Sciences USSR, Moscow (Presented by Academician A. A. Imshenetskiy)

"The Role of Sulfur-Containing Polynucleotide Peptide Complex in Cell Division in *Chlorella vulgaris*"

Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 4, 1970, pp 966-968

Abstract: The effect of sulfur-containing compounds on growth, maturation and cell division of synchronous and nonsynchronous cultures of *C. vulgaris* was studied. The sulfur-containing polynucleotide peptide complex (S-NP) was isolated from synchronous *C. vulgaris* cells at the stage just prior to division. It was determined in an experiment with nonsynchronous material that addition of S-NP stimulated growth of *C. vulgaris*. In experiments with synchronous material, S-NP was added at different periods of illumination. Experimental data showed that S-NP decreases the generation and cell division period, and increases the quantity of autospores formed. S-NP participates directly in processes leading to nuclear cell division.

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1/2 013 UNCLASSIFIED PROCESSING DATE--160CT70
TITLE--ROLE OF A SULFUR CONTAINING POLYNUCLEOTIDE PEPTIDE COMPLEX IN CELL
DIVISION IN CHLORELLA VULGARIS -U-
AUTHOR--(03)-GORYUNOVA, S.V., PUSHEVA, M.A., GERASIMENKO, L.M.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 966-8
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CHLORELLA, SULFUR COMPOUND, PEPTIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/0434 STEP NO--UR/0020/70/190/004/0966/0968
CIRC ACCESSION NO--AT0114714
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0114714

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ISOLATED S CONTG.
POLYNUCLEOTIDE PEPTIDE COMPLEX (S-NP) STIMULATED C. VULGARIS GENERATION
AND CELLULAR DIVISION (SPORULATION) AND INCREASED THE NO. OF AUTOSPORES
FORMING, INDICATING A DIRECT ROLE OF THE S-NP IN PROCESSES LEADING TO
CELL NUCLEUS DIVISION. FACILITY: INST. MIKORBIOL., MOSCOW,
USSR.

UNCLASSIFIED

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USSR

UDC: 582.26

GORYUNOVA, S.V., PUSHEVA, M.A., and GERASIMENKO, L.M., Institute of Microbiology, Academy of Sciences USSR

"The Effect of a Sulfur-Containing Nucleotide Peptide on the Life Cycles of a Synchronous *Chlorella vulgaris* Culture"

Moscow, Doklady Akademii SSSR, Vol 190, No 2, 1970, pp 455-457

Abstract: In an earlier work using electrophoresis and paper chromatography the authors isolated a sulfur-containing polynucleotide peptide complex from cells of a synchronous *Chlorella vulgaris* culture and found that the nucleotide part consisted of four nucleotides characteristic of RNA, while the peptide part included cystine, lysine, arginine, aspartic acid, glycine, glutamic acid, and unidentified compounds. In the present study, anion-exchange chromatography revealed that the sulfur-containing nucleotide peptide was a complex compound that broke down into several fractions, of which only one, No 28, was biologically active. Fraction 28 contained the nucleotide peptide and differed from the other fractions in its ultraviolet absorption spectrum. Addition to the culture of individual constituents of the compound (RNA hydrolysate and various amino acids) stimulated cell growth, but to a lesser degree than did the complex as a whole, and had no effect on the time of the life cycle.

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Nickel

USSR

UDC 669.245.018.44:669.786

LEVI, L. I., BORISOVA, O. M., KOZLOVA, V. S., and PUSHIN, B. A.

"Nitrogen in Complexly Alloyed Nickel Casting Alloys"

Liteyn. proiz-vo (Foundry Production), 1970, No 7, pp 24-26 (from RZh-Metal-lurgiya, No 12, Dec 70, Abstract No 12 I1823 by M. FROLOVA)

Translation: The use of ordinary methods of nitrogen determination (distillation of N in the form of ammonia and vacuum melting) cannot be recommended for complexly alloyed Ni alloys due to the obtaining of sharply understated results. The authors suggest a new, differential method of nitrogen determination (a chemical method, with fusion of precipitate and subsequent analysis), which makes possible nitrogen determination in solid solution and nitride phases. With the help of the new method an investigation was made of heat-resistant ZhS-6K brand Ni alloy. N concentrates mainly, not in solid solution, but in nitride phases (CrN, TiN, etc.). Total nitrogen content depends on the conditions of alloy smelting. It is assumed that carbonitride and nitrocarbide phases of the $Me_xC_yN_z$ type are present in the alloy. Two tables. Bibliography of seven titles.

1/1

USSR

UDC 584.535

ROMANOVA, R. R., BUYNOV, N. N., and PUSHIN, V. G., Institute of Physics of Metals of the Academy of Sciences USSR

"Effect of Natural Aging and Plastic Deformation on Artificial Aging of the Al-Zn-Mg Alloy"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 13, No 5, May 71, pp 1053-1057

Abstract: The effect of deformation carried out between natural and artificial aging on the structure and hardness of the Al-Zn-Mn alloy (wt %): 4.7 Zn; 1.87 Mg; 0.62 Mn; 0.17 Zr. 0.26 Fe; 0.13 Si; 0.05 Cu; the rest Al) was electron-microscopically investigated by the method of thin metal foils and hardness measurements. The investigation results are discussed by reference to electron-microphotographs of the alloy and the hardness dependence on the aging time at 180°C. It was found that preliminary natural aging with subsequent deformation increases the hardness of the artificially aged alloy and increases considerably the extent of dispersion separations in comparison with similar processing but without deformation between natural and artificial aging. The experimental results are explained on the basis of concepts about the effect of deformation on Guinier-Preston zones. Four illustr., twenty biblio. refs.

1/1

- 1 -

USSR

PUSHINA, M. YA., SMIRONOVA, Z. N., SHVETSOVA-SHILOVSKAYA, K. D., et al.

"Quantitative Determination of the Composition of Technical Dimethyl Chlorothiophosphate"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protective Agents)
Moscow, vyp 3, 1973, pp 126-127 (from RZh-Khimiya, No 20, Oct 73, Abstract
No 20N471)

Translation: A TLC method has been proposed for qualitative determination of the composition of technical $(\text{MeO})_2\text{PSCl}$ (I). The analysis was carried out on plates with a fixed layer of silica gel, grade KSK in the solvent system hexane- C_6H_6 (2:1). The chromatograms were developed with bromphenol blue followed by illumination with UV light. I contains the following impurities: MeOPSCl_2 and $(\text{MeO})_3\text{PS}$.

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USSR

UDC 632.95

MEL'NIKOV, N. N., SHVETSOVA-SHILOVSKAYA, K. D., SAPOZHNIKOV, YU. N., ~~PUSHINA,~~
M. YA., and TITOVA, YE. B.

"Trichlorometaphos-3 Compound"

V sb. Khim sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 28-32 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11A396)

Translation: Trichlorometaphos-3 of formula $(\text{MeO})(\text{EtO})\text{P}(\text{S})\text{OC}_6\text{H}_2\text{Cl}_3-2,4,5$ (I) with a boiling point of $127^\circ/0.15$, $d_4^{20} 1.4345$, $n_D^{20} 1.5520$ is synthesized by reacting $(\text{MeO})(\text{EtO})\text{P}(\text{S})\text{Cl}$ with $2,4,5\text{-Cl}_3\text{C}_6\text{H}_2\text{ONa}$. Compound I is used against the larvae of botflies, mites and flies. In order to purify the 80% commercial product, impurities are continuously steam-distilled utilizing a glass packing column. The purified product is dried at $90\text{-}100^\circ\text{C}$ and a pressure of $20\text{-}30$ mm for 1 hour. A diagram is presented of the column for purifying I.

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USSR

UDC 615.361.419.014.41

PUSHKAR', N. S., OBOZNAYA, E. I., SHAKHBAZOV, V. G., DATSENKO, B. M., and
IKIN, Yu. A., Ukrainian Institute of Advanced Training of Physicians,
Ministry of Health USSR, Kharkov

"The Effect of Polyethylene Oxide on Myelokaryocyte Respiration After the
Freezing of Bone Marrow to -196°C "

Moscow, Problemy Gematologii i Perelivaniya Krovi, No 4, 1971, pp 52-54

Abstract: The effect of freezing on the intensity of oxygen uptake by bone marrow cells from cancer patients and healthy persons was studied in relation to the rate of freezing to -196°C and the type of cryophylactic agent used (glycerin, DMSO, and the newly developed polyethylene oxide). Myelokaryocytes from healthy persons take up oxygen much more rapidly than those from cancer patients. The addition of polyethylene oxide to a suspension of the cells before freezing had little effect on oxygen uptake, whereas the addition of DMSO or glycerin depressed it sharply. Two-stage freezing (at the rate of $1^{\circ}/\text{min}$ to -15° and then at the rate of either 300° or $10^{\circ}/\text{min}$ to -196°) was more effective in protecting the cells than single-stage freezing (from 0 to -196° at the rate of either $300^{\circ}\text{C}/\text{min}$ or $10^{\circ}\text{C}/\text{min}$). Bone marrow frozen with polyethylene oxide has already successfully undergone clinical trials.

1/1

Hematology

USSR

UDC: 615.361.419.014.413

DATSENKO, B. M., BULATOVA, R. F., PUSHKAR', N. S., ITKIN, Yu. A., KOGAN, V. S.,
and KOZ'MIN, Yu. V., Ukrainian Institute for the Advanced Training of Physicians,
Ministry of Health USSR, and Physico-technical Institute, Academy of Sciences
Ukrainian SSR, Kharkov

"Mechanism of the Protective Action of Polyethylene Oxide on Bone Marrow Cells
Freezing to -196°C "

Moscow, Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 11, Nov 70, pp 32-37

Abstract: X-ray diffraction analysis and low-temperature crystallography showed that little polyethylene (as compared to glycerin) penetrates bone marrow cells frozen to -196°C . The bulk of the substance remains outside, forming a coating around the cells, and hence exerts a protective effect. Electron microscope study of erythrocytes present in the frozen bone marrow cells revealed many cavities formed as a result of intracellular crystallization. The size of the pieces of ice increased from the periphery to the center, where a large ice crystals were sometimes found. In the light of the suggested mechanism of action of

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USSR

DATSENKO, B. M., et al, Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 11, Nov 70, pp 32-37

polyethylene oxide, the increased number of crystals in the erythrocytes from the periphery to the center is considered to be the result of a quantitative decrease in the cryophylactic agent in the cells in the same direction.

2/2

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1/2 008
TITLE--RIVER TRAFFIC -U-

UNCLASSIFIED

PROCESSING DATE--13NOV70

AUTHOR--PUSHKAR, P.

COUNTRY OF INFO--USSR

SOURCE--VODNYY TRANSPORT, APRIL 21, 1970, P 2, COL 1

DATE PUBLISHED--21APR70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--INLAND WATERWAY TRANSPORTATION, RIVER, SHIPYARD, CARGO
SHIP/(U)ALMAZ CARGO SHIP, (U)TUMAN CARGO SHIP, (U)KROVELSHCHIK CARGO
SHIP, (U)PCR6 CARGO SHIP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FEEL/FRAME--1991/1261

STEP NO--UR/9028/70/000/000/0002/0002

CIRC ACCESSION NO--AN0110880

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0110880

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INITIATION OF RIVER TRAFFIC ON THE OKA IS IMMINENT. THE RYAZAN WHARF HAS ALREADY RECONDITIONED MOTORSHIPS "ALMAZ", "TUMAN", "KROVEL, SHCHIK", AND HYDRAULIC LOADER "PGR-6". IN ALL, THE PORT HAS RECONDITIONED 155 VESSELS.

UNCLASSIFIED

USSR

UDC: 621.375.4

MASLAKOV, G. N. and PUSHKAR', V. I.

"Designing Amplifiers With Maximum Voltage Gain Using Field-Effect Transistors"

V sb. Vopr. uluchsheniya tekhn. parametrov vypryamit. i tranzist. priborov (Problems of Improving the Technical Parameters of Rectifiers and Transistorized Devices--collection of works) Leningrad, 1970, pp 273-279 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D163)

Translation: Some methods are considered for designing field-effect transistor amplifiers with maximum gain. Some practical circuits with stabilization of amplifier stage modes by using a common negative feedback circuit for d-c are given. Parameters of several field-effect transistors are presented. Five illustrations, one table, bibliography of three. N. S.

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USSR

UDC: 621.375.421

PUSHKAR', V. I. and LASHCHUK, Ye. Ye.

"Broad-band Transistorized A-C Amplifiers"

V sb. Vopr. uluchsheniya tekhn. parametrov vypryamit. i tranzist. priborov (Problems in Improving the Technical Parameters of Rectifiers and Transistorized Devices) Leningrad, 1970, pp 247-251 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D167)

Translation: The circuit is given of an amplifier with a frequency range up to 1 MHz. It consists of two identical stages involving effective negative d-c feedback. Results of tests on the amplifier are given. Its high accuracy and stability in a broad temperature range are noted. Two illustrations, bibliography of two. N. S.

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USSR

UDC: 621.375.4

PUSHKAR', V. I. and MASLAKOV, G. N.

"Investigating Transistor Parameters to Indicate Possibilities of Designing Amplifier Stages With Limited Gain"

V sb. Vopr. uluchsheniya tekhn. parametrov vypryanit. i tranzist. priborov (Problems in Improving the Technical Parameters of Rectifiers and Transistorized Devices) Leningrad, 1970, pp 42-57 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D164)

Translation: The parameters of transistors were experimentally investigated in various operation modes and various temperatures of the outside medium, for the purpose of analyzing the possible errors of the amplifiers with high gain and without the use of negative feedback for stability. Conditions are determined for which transistors, connected in a common emitter circuit, have maximum voltage gain. The latter then vary only slightly with changes in collector current, supply voltage, the temperature of the outside medium, and the frequency of the input signal. Eleven illustrations, three tables, bibliography of four. N. S.

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- 8 -

USSR

UDG: 621.375.421

MASLARG', G. N., PUSHKAR', V. I., and NASTYUSHENOK, S. S.

"Some Selective Amplifier Circuits Using Field-Effect Transistors With Double-T RC Filters"

V sb. Vopr. uluchsheniya tekhn. parametrov vypryamit. i tranzist. priborov
(Problems in the Improvement of Technical Parameters of Rectifiers and Transistorized Devices -- collection of works) Leningrad, 1970, pp 174-180
(from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D27)

Translation: Selective amplifier circuits with a double-T bridge in the negative feedback circuit are studied for use in active filters. It is shown that it is possible to make them using field-effect transistors, thus achieving wide limits of control of the amplification factor. The maximum amplification factor is approximately 100. Bibliography of five.

1/1

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DOMAIN STRUCTURE OF UNIAXIAL ANTIFERROMAGNETS. THE PROBLEM OF
NUCLEATION -U-
AUTHOR--(03)-MITSEK, A.I., GAIDANSKIY, P.F., PUSHKAR, V.N. *P*
COUNTRY OF INFO--USSR
SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 38, NR 1, PP 69-79
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--MAGNETIC DOMAIN STRUCTURE, MAGNETIC TRANSFORMATION, MAGNETIC
ANISOTROPY, NUCLEATION, ANTIFERROMAGNETIC MATERIAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1058 STEP NO--GE/0030/70/038/001/0069/0079
CIRC ACCESSION NO--AF0107567

NOT ACCEPTEA

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107567

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THE ENERGY OF GAMMA SUB180 AND THE HALFWIDTH DELTA SUB180 OF 180DEGREES L DOMAIN WALLS IN ANTIFERROMAGNETS ON THE MAGNETIC FIELD H IS CALCULATED FOR LOW FIELDS. AT H YIELDS H SUB0 (H SUB0 IS THE CRITICAL FIELD OF THE SPIN FLOP TRANSITION) THE WALLS EXPAND AND THEIR ENERGY GAMMA SUB180 DECREASES. IN THE SPIN FLOP REGION 90DEGREES DOMAIN STRUCTURE APPEARS. GAMMA SUB90 AND DELTA SUB90 ARE DETERMINED BY THE VALUE OF FOURTH ORDER ANISOTROPY CONSTANT K SUB2. THE CALCULATION OF THE METASTABLE STATE (K SUB2 SMALLER THAN 0) REGION SHOWS THAT ITS BOUNDARIES MAY BE APPROXIMATED BY THE ASTROID AT THE MAGNITUDE OF K SUB2 IS LESS THAN K SUB1 ONLY. THE WALL DISPLACEMENT IN THE SPIN FLOP REGION (K SUB2 IS SMALLER THAN 0) AND THE DOMAIN STRUCTURE AT K SUB2 IS GREATER THAN 0 ARE DISCUSSED. THE PROBLEM OF THE NEW MAGNETIC PHASE NUCLEATION IS CONSIDERED. FACILITY: URAL STATE UNIVERSITY, SVERDLOVSK.

Gerontology

UDC 612.82.8:612.67

(1)

USSR

MIKHAYLOVA-LUKASHEVA, V. D., BUTKO, G. I., LEDENIEVA, A. I., FUSHMARCELK, A. A.,
AND SYUSYUKIN, V. A., Sector of Gerontology, Academy of Sciences Belorussian
SSR, Minsk

"Peculiarities of the Functional Activity of the Central Nervous System in the
Aging Process"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 6, 1972,
pp 87-92

Translation of Russian Abstract: The relation between the changes in the
higher sections of the nervous system and the functional activity of other ner-
vous systems in an organism during aging were studied in experiments in animals
of various age and in men. The experimental results revealed that both the
transportability of nervous processes and the intensity of active inhibition
were decreased and that the functional activity of many of the systems of an
organism and their reactivity to pharmacologic substances administered were
changed in the aging process. The variation in reactivity of old and young
animals to pharmacologic substances is caused by age changes in neurohumoral
regulations. The changes in cerebral cortex during aging are functional,
biochemical, and morphological, and they lead to transformation of subordinated
cortical-subcortical interrelations and of integrated mechanisms, which in
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USSR

MIKHAYLOVA- LUKASHEVA, V. D., Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 6, 1972, pp 87-92

turn leads to a decrease in the central control, to changes in relations between the nervous centers and periphery, and to disturbances in regulation of all systems of the organism. These disturbances in functional systems result in faster wearing out of the organism, i.e., aging.

2/2

- 18 -

USSR

UDC: 621.385.64

KALASHNIKOV, V. G., MEDVEDEVA, L. I., ~~and~~ PUSHKAREV, A. G.

"An M-Type Instrument"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 26,
1970, Soviet Patent No 278905, Class 21, filed 7 Aug 69, p 70

Abstract: This Author's Certificate introduces an M-type instrument such as a co-axial or coaxially inverse magnetron with high-speed adjustment. The instrument contains a stabilizing resonator and a rotating tuning element which has slots and is located inside the stabilizing resonator. As a distinguishing feature of the patent, the adjustment range is extended by placing additional resonators in the end wall of the stabilizing resonator. The number and sizes of these additional resonators are equal to the number and sizes of the slots on the rotating tuning element.

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USSR

UDC 621.385.64(089.8)

ALEKSANDREV, A.G., PUSHKAREV, A.G.

"M-Type Device"

USSR Author's Certificate No 274237, filed 9 July 69, published 29 Sept 70
(from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4A158P)

Translation: The design is proposed of a coaxial magnetron which contains a cooling device close to a laminar resonant system. The device contains cooling ducts located along the cylindrical walls of the stabilizing coaxial resonator between the slits for coupling this resonator with the laminar resonator of the system. E.G.

1/1

USSR

UDC 621.385.032:621.385.642.3 (088.8)

ALEKSANDROV, V.A., MARIN, V.P., EUSHKAREV, A.G.

"Decelerating System"

USSR Author's Certificate No 261587, filed 29 July 67, published 13 May 70 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11A1C6P)

Translation: The decelerating system of an inverted π -type microwave device contains strapped resonators $3/4 \lambda_0$ long and nonstrapped $1/4 \lambda_0$ long, and a stabilizing circuit. With the object of increasing the effectiveness of liquid cooling of the lamella, with a decrease in length of the wave being generated, and an increase of the intrinsic Q-factor of the system, the nonstrapped resonators are united into groups which have a common metal base in which cooling channels are located. The number of groups is determined by the formula N/n where N is the total number of resonators, and n is the positive whole number selected from the condition $N/2 > n > 2$. Summary.

1/1

UDC 621.385.64 (088.8)

USSR

KALASHNIKOV, V.G., MEDVEDEVA, L.I., FISHKAREV, A.G.

"M-Type Device"

USSR Author's Certificate No 278905, filed 7 August 1969, published 24 May 1971
(from RZh---Elektronika i yeye primeneniye, No 3, March 1972, Abstract No 3A70P)

Translation: A M-type device is proposed, e.g., a coaxial or a coaxially inverted magnetron with high-speed retuning, which contains a stabilizing cavity (C) and a rotary retuning element located inside the stabilizing C and which has a slot. With the object of increasing the range of retuning, additional C are located in the side wall of the stabilizing C, with the number and size of the additional C equal to the number and size of the slots on the rotary retuning element.

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USSR

UDC 539.122.074

MUKHACHEV, B. V., PUSHKAREV, A. V., SAMOYLOV, P. S.

"Vacuum Radiation Elements for Measurement of High Intensity γ Radiation Exposure Dose"

Tr. Soyuz. NII Priborostr. [Works of Union Scientific Research Institute for Instrument Building], 1972, No 17, pp 63-71, (Translated from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No 7, 1972, Abstract No 7.32.1403).

Translation: The design, calibration and results of testing of vacuum radiation γ elements for measurements of high-intensity γ radiation exposure doses, requiring no external power supplies, are described. The diameter of the sensing portion of the γ element is 6 mm, length 150 mm. It is shown that the sensitivity of γ elements is higher, the greater the difference in atomic numbers of the emitter and (stainless steel) collector materials. The sensitivity of the γ elements with emitters of zirconium and tantalum are $1.5 \cdot 10^{-13}$ and $6 \cdot 10^{-13}$ A/R/s respectively. Results are presented from tests of γ elements in the SM-2 reactor. It is shown that γ elements can be used between 10^3 and 10^6 R/s at temperatures

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USSR

MUKHACHEV, B. V., et al., Tr. Soyuz. NII Priborostr., 1972, No 17, pp 63-71

of up to 500°C. The output signals of the γ elements are proportional to the reactor power and are independent of temperature, while the resistance of the insulation of the γ element under actual operation conditions is at least 10^7 ohm.

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USSR

UDC: 536.521:533.9.07

Kandyba, V. V., Pushkarev, G. P.

"Standard High-Temperature Monochromatic Planck Radiator for Optical Pyrometry of a Plasma"

Moscow, Metrologiya, No. 9, 1972, pp. 32-39.

Abstract: An optimal design is developed for a channel plasmatron, allowing the non-selfreversed spectral lines of a dense argon plasma to be studied without using a protective media. Reabsorption (saturated) spectral lines are produced in the spectrum of argon. It is experimentally shown that the spectral density of radiation in the center of the saturated argon line at 763.5 mμ is described by Planck's equation with a temperature corresponding to the true temperature of the plasma. The stability and reproducibility of the intensity of the saturated radiation of this line allow this plasmatron to be suggested as a standard monochromatic black radiator for optical plasma pyrometry.

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1/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--REDUCTION OF CUPRIC AND FERRIC OXIDES FOLLOWING TREATMENT BY

HYDROGEN -U-

AUTHOR--PUSHKAREV, V.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., TSVET. MET. 1970, 13(1), 22-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REDUCTION, COPPER OXIDE, IRON OXIDE, HYDROGEN,
CHEMICAL REACTION RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0630

STEP NO--UR/0149/70/013/001/0022/0026

CIRC ACCESSION NO--AT0137715

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0137715

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. PREHEATING CU SOBX O AND FE SUB2 O
SUB3 IN H AT A TEMP. MUCH HIGHER THAN THE SUBSEQUENT REDN. TEMP
INCREASES THE REDN. RATE. THIS IS NOT BECAUSE OF THE ENLARGEMENT OF
PORES (PERMEABILITY) BUT IS DUE TO THE CHANGE IN THE ENERGY STATE OF THE
PARTIALLY REDUCED OXIDES. FACILITY: LENINGRAD. POLITEKH. INST.,
LENINGRAD, USSR.

UNCLASSIFIED

AA0040458

P

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241078 FISSURING TENDENCY OF WELD SEAMS at high temperatures is quantitatively evaluated by applying a bead seam across the contact line of two metal plates; heating it to 900-1100°C, while applying a tensile stress; then cooling to below 700°C and disrupting the seam by applying a uniaxial impact stress. The result is compared with a similar test, but without heating at 900-1100°C under stress.

6.3.67 as 1137666/25-28, V.M. PUSHKAREV, URAL RAILWAY TRANSPORT INST. (21.8.67) but 15/1.4.69. Class 42k. Int.Cl.G 01n.

19741960

AA0040458

Ural'skoye Otdeleniye Vsesoyuznogo Nauchno - Issledovatel'skogo
Instituta Zheleznodorozhnogo Transporta

19741961

USSR

UDC 616.981.452-084.47

18

AGAFOXOV, V. I., BABKIN, Ye. I., VDOVIN, D. G., VOROBEYCHIKOV, V. M.,
VOROB'YEV, A. A., GAMLESHKO, Kh. P., GAPOCHKO, K. G., GEFFEN, H. Ye., YEVSTIGNEV,
V. I., YEMEL'YANOVA, O. V., ZEMSKOV, Ye. M., IMAMALIYEV, O. G., KAMALOV, I. I.,
KVIRIKADZE, V. V., KUTYREV, P. A., MISNIKOV, O. P., PUSHKAREV, V. P., and
ROZDESTVENSKIY, D. A., Military Medical Academy imeni "S. M. Kirov", Leningrad

"A Comparative Efficiency Characteristic of Different Immunization Methods
Against Plague Infection"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 11, 1972,
pp 106-112

Abstract: Analysis of the available literature data led to the conclusion
that oral, aerogenic, and jet immunization methods are the most efficient
compared with subcutaneous and skin methods. The average number of patients
inoculated against plague infection was 517, 817 (419), and 937 per hr for jet
injectors, aerogenic method liquid and dry vaccine, and oral method (tablets),
respectively, compared with only 43 and 28 for the subcutaneous and skin
methods, respectively.

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USSR

UDC 628.346

ZOLOTAVIN, V. L., KONSTANTINOVICH, A. A., SANATINA, V. N., PUSHKAREV, V. V.,
and PETROV, V. S.

"Deactivation of Radioactive Sewage by the Method of Two-stage Coagulation of
Iron Hydroxide"

Leningrad, Radiokhimiya, Vol 13, No 1, 1971, pp 164-166

Abstract: Comparison of the two-stage coagulation process with the single
stage method showed that with identical consumption of iron sulfate the de-
activation of sewage is increased 12-20 fold in respect to the α -activity,
and 2-5 fold in respect to the β -activity when the two-stage method was used.

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CSO: 1841-W

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USSR

UDC 616.988.25-022.395.42-085.373.6:547.962.4

PSHENICHNOV, A. V., PSHENICHNOV, R. A., and PUSHKAREV, V. V., Perm Scientific Research Institute of Vaccines and Sera

"Advantages of Heterogeneous Polyspecies Gamma-Globulins for Seroprophylaxis and Therapy of Tickborne Encephalitis"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 70, pp 596-600

Abstract: Inoculation with heterogeneous immune sera or gamma-globulins was found to result in an accumulation of complement antiglobulins in the blood of recipients. The antiglobulins were detected in gel precipitation tests after 5-7 days and persisted for 1-1 1/2 months. After repeated injections of these preparations, the antiglobulins combine, neutralize the newly introduced antibodies and prevent their penetration into the blood. The results substantiate the principle of consecutive inoculation with different species of heterogeneous serum preparations to provide long-lasting passive immunity to tickborne encephalitis. There are reasons to believe that the suggested principle of seroprophylaxis and therapy will be applicable in viral and bacterial infections.

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1/2 019 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--ANALYSIS OF THE ACTION OF CATECHOL AMINES AND SEROTONIN ON
VEGETATIVE GANGLIA -U-
AUTHOR--PUSHKAREV, YU.P. *P*
COUNTRY OF INFO--USSR
SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(1), 22-5
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CATECHOLAMINE, GANGLION, SEROTONIN, ADRENALINE, NORADRENALIN,
SYMPATHETIC NERVOUS SYSTEM, CHOLINERGIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/1174 STEP NO--UR/0390/70/033/001/0022/0025
CIRC ACCESSION NO--AP0115193
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--09JCT70

CIRC ACCESSION NO--AP0115193

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADRENALINE (0.1-1MUG-KG),
NORADRENALINE (0.3-5 MUG-KG), AND SEROTONIN (3-10 MUG-KG), INJECTED INTO
THE CAROTID ARTERY OF CATS INHIBITED SYNAPTIC TRANSMISSION IN THE
SYMPATHETIC GANGLIA IN SITU DUE TO DECREASED EXCITABILITY OF THE
PRESYNAPTIC FORMATIONS. IRREGULAR INCREASE IN SYNAPTIC TRANSMISSION
OBSD. WITH SMALL AMINE DOSES WAS DUE TO INCREASED EXCITABILITY OF THE
GANGLIAR CHOLINERGIC STRUCTURES. FACILITY: INST. FIZIOL, IM
PAVLOVA, LENINGRAD. USSR.

UNCLASSIFIED

1/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--ROLE OF HORMONES IN REGULATING THE ACTIVITY OF THE CHOLINERGIC
STRUCTURES OF VEGETATIVE GANGLIA -U-

AUTHOR--(02)-SPERANSKAYA, YE.N., PUSHKAREV, YU.P.

COUNTRY OF INFO--USSR

SOURCE--VESTN. LENINGRAD. UNIV. BIOL. 1970, (11), 108-13

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EPINEPHRINE, NOREPINEPHRINE, SEROTONIN, GANGLION,
ACETYLCHOLINE, MEDICAL EXPERIMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1906

STEP NO--UR/9074/70/000/001/0108/0113

CIRC ACCESSION NO--AP0127307

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0127307

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADRENALINE (0.1-1.0 MU G), NORAADRENALINE (0.5-2 MU G), AND SEROTONIN (0.2-3.0 MU G) INJECTED INTO THE BLOOD VESSELS OR PERFUSING FLUIDS OF AUTONOMIC GANGLIA OF CATS INCREASED THE REACTION OF GANGLIA TO ACETYLCHOLINE. THE LARGEST DOSES SUDDENLY REDUCED THE SENSITIVITY OF THE CHOLINORECEPTOR RESPONSE TO ACETYLCHOLINE. INSULIN (3-20 UNITS-KG) AND THYROXINE (300 MU G OR MORE) DECREASED THE REACTIVITY OF CHOLINORECEPTORS TO ACETYLCHOLINE; SMALLER CONCNS. OF THE HORMONES SHOWED IN GHE GANGLIA A POS. TROPIC EFFECT, INCREASING THEIR SENSITIVITY TO ACETYLCHOLINE. OPTIMAL CONCNS. OF GLUCOSE IN THE BLOOD OR IN THE DRINKING WATER WIDENED THE EFFECTIVE RAGNE OF THE HORMONES AND NEUROTROPIC AGENTS ON CHOLINORECEPTORS IN THE AUTONOMIC GANGLIA.

UNCLASSIFIED

USSR

UDC 615.357.452 + 615.362.018:
547.757.015.4:612.89

P
PUSHKAREV, YU. P., Institute of Physiology imeni I. P. Pavlov,
Leningrad, Academy of Sciences USSR

"The Action of Catecholamines and Serotonin on Vegetative Ganglia"
Moscow, Farmakologiya i Toksikologiya, Vol 33, No 1, Jan.-Feb 70,
pp 22-24

Abstract: In experiments on cats under the action of chloral and urethane, the action of adrenaline, noradrenaline, and serotonin on synaptic transmission in sympathetic ganglia was studied in situ, i.e., under conditions in which the blood supply was not interrupted. Adrenaline, noradrenaline, and serotonin in doses above 0.1 ± 0.02 , 0.25 ± 0.05 , and 4.5 ± 1 microgram, respectively, inhibited transmission in sympathetic ganglia. In amounts below the minimum (threshold) doses indicated above that produced this effect, the catecholamines generally did not have any effect on synaptic transmission, while serotonin in doses of $0.2-4$ microgram improved the transmission in 85% of cases, increasing the number of neurons that

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USSR

PUSHKAREV, YU. P., Farmakologiya i Toksikologiya, Vol 33, No 1,
Jan-Feb 70, pp 22-24

responded to the stimulation. As shown by data on the electrophysiological characteristics of synaptic transmission in the upper cervical ganglion upon postactivation reinforcement of the effect of electrical stimuli by the intra-arterial injection of acetylcholine, the stimulation of transmission by serotonin was due to an increase in the excitability of cholinoreceptive structures in the ganglionic cells.

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Plant Pathology

USSR

UDC 632

BEKKER, E. E., DOVLETMURADOV, I. D., PUSHKAREVA, I. D., POLETAYEVA, V. F.,
SHILINA, S. G., and YASAKOVA, E. I., Institute of Botany, Academy of Sciences
Turkmen SSR

"The Nature and Biosynthesis of the Toxin of Fusarium Wilt Pathogen, the
Mechanism of Its Action, and Its Possible Transformation in the Cotton
Plant"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 5, Sep/
Oct 71, pp 749-754

Abstract: Analysis of purified extracts of *Fusarium oxysporum* f. *vasinfectum*
culture liquid confirmed that the toxin of fusarium wilt of the fine-
fibred cotton plant is fusaric acid. The severity of wilt depends mainly
on the rate of production of fusaric acid by the pathogen. Biosynthesis of
this toxin appears to proceed through formation of tryptophan and is inhibited
by substances participating in transmethylation, such as cobalt or methionine.
Plant resistance is augmented in the presence of cobalt, vitamin P, and
pyridine alkaloids, and is considerably reduced in the presence of thiamine.
The mechanism of action of fusaric acid probably involves competition between
the product of its decarboxylation, 3-n-butylpyridine, and dehydrogenase co-
factors. Immunity may be due to detoxification of fusaric acid through its
transformation into methylamide

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USSR

UDC 581.192:633.51

NAZIROV, N. N. and ~~PUSHKAREVA, M. M.~~, Institute of Experimental Plant Biology,
Academy of Sciences Uzbek SSR

"Gossypol Content in Cotton Varieties Differing in Wilt Resistance During
Ontogenesis"

Tashkent, Uzbekskiy Biologicheskii Zhurnal, No 3, 1970, pp 21-24

Abstract: The dynamics of gossypol content in vegetative organs of cotton varieties differing in wilt resistance during ontogenesis was studied in normal plants and after parasitic attack. Experiments were conducted in 1965 in 26 kg Warner vegetation vessels. Barley seeds infested with *Verticillium dahliae* (50 g per vessel) were placed in soil before the vessels were plugged. Ordinary, uncontaminated soil served as the control. Cotton variety S-4727 susceptible to wilt, the less resistant 108-F variety, the more resistant 152-F, and the highly resistant AN-318 variety were used. The first three are varieties of the species *Gossypium hirsutum* and the last is *Gossypium barbadense*. It was found that the most wilt-resistant species had a higher gossypol content in the root cortex and woody matter of roots and stalks. When cotton plants are infected with *Verticillium* fungus, the gossypol content in the root cortex and woody matter of roots and stalks, especially in susceptible varieties, rises sharply.

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USSR

UDC: 535.31:535.8

PUSHKAREVA, N. A.

"Basis for Requirements Placed on Design of Optical Systems Used with Lasers"

Tr. Mosk. Vyssh. Tekhn. Uch-Shcha Im N. E. Baumana [Works of Moscow Higher Technical School Imeni N. E. Bauman], No. 135, 1970, pp 41-47, (Translated from Referativnyy Zhurnal Fizika, No. 8, 1970, Abstract #8D1247, unsigned).

Translation: The relationship between the requirements for aberrations, output parameters of the laser and external parameters of the transmitting and receiving channels is studied.

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Cardiovascular Diseases

USSR

ADYLOV, A. K., Docent, and PUSHKAREVA, S. Ya., Staff Physician, Chair of Hospital Therapy, Samarkand Medical Institute

"Climatopathology of Acute Cardiovascular Diseases in Samarkand"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 6, Jun 70, pp 31-32

Abstract: Since the climate in Samarkand, located 724 meters above sea level, differs considerably from the climate prevailing in other Central Asian cities, the possibility of a correlation between climate and cardiovascular diseases was studied. The data used for analyses covered a period of six years (1958-1963) during which exact meteorological parameters and the following cardiovascular diseases were recorded: 2,785 cases of stenocardia, 627 cases of hypertensive insults, 345 cases of myocardial infarction, and 247 cases of hypertensive crisis. The results proved that there is a definite correlation between an increased frequency of cardiovascular diseases and pronounced climatic fluctuations, such as rapid changes in atmospheric pressure, temperature, and humidity. Even though data are not very detailed, they are useful for establishing medical forecasts and organizing prophylactic measures.

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1/R 020 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SENSITIZATION OF HYDRAZINE PHOTOOXIDATION IN AN AQUEOUS SOLUTION BY
LEAD AND TITANIUM OXIDES AND HYDROXIDES -U-
AUTHOR--SHEVCHENKO, G.P., PUSHKAREVA, T.M., SVIRIDOV, V.V. P
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(2) 546
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--HYDRAZINE, TITANIUM OXIDE, HYDROXIDE, LEAD OXIDE,
PHOTOOXIDATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0274 STEP NO--UR/0076/70/044/002/0546/0546
CIRC ACCESSION NO--AP0113205
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UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0113205

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY OF EFFECTIVE PHOTOOXIDN. OF N SUB2 H SUB4 IN AERATED AQ. SOLNS. CONTG. SOLID ADDNS. OF PB HYDROXIDE AND OXIDE, TI HYDROXIDE, AND ONE OF THE CRYST. MODIFICATIONS OF TIO SUB2, ANATASE, IS SHOWN. THESE ADDITIVES ARE SENSITIZERS OF THE PHOTOREACTION MAKING THE REACTION POSSIBLE UNDER THE ACTION OF LIGHT NOT ABSORBED BY N SUB2 H SUB4 SOLN. BUT ABSORBED BY THE ADDITIVES. RUTILE TIO SUB2 HAS NO SUCH ACTIVITY. IN AN ACIDIC MEDIUM NH SUB3, N SUB2, AND H SUB2 O ARE PRODUCED, AND IN A NEUTRAL OR WEAKLY ALK. MEDIUM N SUB2 AND H SUB2 O. THIS DIFFERENCE IS DUE TO THE PRESENCE OF N SUB2 H SUB5 PRIME POSITIVE IN ACIDIC MEDIA AND N SUB2 H SUB4 IN NEUTRAL OR ALK. MEDIA. THE SENSITIZED ACTIVITIES OF PB(OH)SUB2 AND VARIOUS CRYST. MODIFICATIONS OF PBO (TETRAGONAL AND RHOMBIC) THAT WERE NOT CALCINED DURING PREPN. ARE COMPARABLE. CALCINATION AT 600DEGREES INCREASES THE ACTIVITY NOTICERABLY AND IN SPITE OF A CERTAIN DECREASE IN SP. SURFACE. DEHYDRATION OF TI HYDROXIDE AT 400DEGREES FORMS ANATASE WITH A BADLY ORDERED CRYSTAL LATTICE AND INCREASES THE SENSITIZING ACTIVITY. AT HIGHER TEMP. THE ACTIVITY IS DECREASED. THE IONS AG PRIME POSITIVE, MN PRIME2 POSITIVE, AL PRIME3 POSITIVE, CR PRIME3 POSITIVE, LI PRIME POSITIVE, CU PRIME2 POSITIVE HAVE A COMPLEX EFFECT ON PBO ACTIVITY THAT DEPENDS ON THE METHOD OF PREPN. OF THE SENSITIZER. THESE IONS, EXCEPT FOR CR PRIME3 POSITIVE, WHEN ADDED TO TIO SUB2 AT 800DEGREES HAVE AN ACTIVATING EFFECT. SENSITIZING ACTIVITY IS ALSO FOUND WITH FE(OH)SUB3, ZNO, ZNS, HGS (RED), HGS (BLACK), HGSE, HGBR SUB2, HGI SUB2, HG SUB3 SE SUB2 I SUB2, HGBR SUB2. NHGSE, HG SUB3 S SUB2 I SUB2.

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USSR

UDC: 681.325

TSOKANOV, V. V., TORCHIN, A. L., PUSHKAREV, V. G.

"A Converter Which Transforms Code to Pulse Repetition Frequency"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 5, Feb 71, Author's Certificate No 293296, Division H, filed 16 May 69,
published 15 Jan 71, pp 177-178

Translation: This Author's Certificate introduces a converter which transforms code to pulse repetition frequency. The device contains a reference frequency oscillator, a code-to-analog converter, a frequency comparison circuit, a controllable frequency divider which consists of a counter and discharge diodes, and a recording signal shaper. As a distinguishing feature of the patent, the operating frequency range of the converter is extended by incorporating circuits for coincidence of "ones" and "zeros" and a zeroing signal shaper. The output of the "ones" coincidence circuit is connected to the input of the zeroing signal shaper and to one of the inputs of the frequency comparison circuit, and the output of the "zeros" coincidence circuit is connected to the input of the recording signal shaper.

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